

## 70-764 Dumps

### Administering a SQL Database Infrastructure (beta)

<https://www.certleader.com/70-764-dumps.html>



**NEW QUESTION 1**

- (Exam Topic 1)

Note: This question is part of a series of questions that use the same or similar answer choices. An answer choice may be correct for more than one question in the series. Each question is independent of the other questions in this series. Information and details provided in a question apply only to that question.

You have an on-premises server that runs Microsoft SQL Server 2016 Standard Edition. You need to identify missing indexes.

What should you use?

- A. Activity Monitor
- B. Sp\_who3
- C. SQL Server Management Studio (SSMS) Object Explorer
- D. SQL Server Data Collector
- E. SQL Server Data Tools (SSDT)
- F. SQL Server Configuration Manager

**Answer:** D

**Explanation:**

Data Collector can gather performance information from multiple SQL Server instances and store it in a single repository. It has three built-in data collecting specifications (data collectors) designed to collect the most important performance metrics. The information collected by default is about disk usage, query statistics, and server activity.

The Query Statistics data collection set collects information about query statistics, activity, execution plans and text on the SQL Server instance.

Missing indexes can be found with the execution plans.

References: <https://www.sqlshack.com/sql-server-performance-monitoring-data-collector/>

**NEW QUESTION 2**

- (Exam Topic 1)

Note: This question is part of a series of questions that use the same scenario. For your convenience, the scenario is repeated in each question. Each question presents a different goal and answer choices, but the text of the scenario is exactly the same in each question in this series.

You are a database administrator for a company that has an on-premises Microsoft SQL Server environment and Microsoft Azure SQL Database instances. The environment hosts several customer databases, and each customer uses a dedicated instance. The environments that you manage are shown in the following table.

Customer	Cloud Type	Description
AdventureWorks Cycles	Private	The environment includes a database named <b>Adventureworks</b> that contains a single schema named <b>ADVSchema</b> . You must implement auditing for all objects in the <b>ADVSchema</b> schema. You must also implement auditing to record access to data that is considered sensitive by the company.
Tailspin Toys	Private	Tailspin Toys has a custom application that accesses a hosted database named <b>TSpinDB</b> . The application will monitor <b>TSpinDB</b> and capture information over time about which database objects are accessed and how frequently they are accessed.
Contoso, Ltd.	Private	The environment has a database named <b>ConDB</b> that was recently upgraded to Microsoft SQL Server 2016. Contoso reports that <b>ConDB</b> is slow to return results when the server is busy. You must modify the startup parameters to <b>ConDB</b> to optimize performance.
Wingtip Toys	Private	Wingtip Toys has a database named <b>WingDB</b> . All tables in the database have indexes. Users report system response time is slow during peak activity periods. You observe that the performance issues are related to locking.  Wingtip Toys receives data updates from suppliers each week. You must implement a process for importing the data into <b>WingDB</b> . You must use minimal logging and minimized data loss during import process.
Wide World Importers	Public	The environment includes a database named <b>WDWDB</b> . Neither auditing nor statistics are configured for <b>WDWDB</b> . You must log any deletion of views and all database record update operations.

You need to configure the Contoso instance.

How should you complete the Transact-SQL statement? To answer, select the appropriate Transact-SQL segments in the answer area.

## Answer Area

```

sp_configure [▼] , 1
' max worker threads '
' show advanced options '
' cost threshold for parallelism '
' max degree of parallelism '

GO
RECONFIGURE WITH OVERRIDE
GO
sp_configure [▼] , 0
' max worker threads '
' show advanced options '
' cost threshold for parallelism '
' max degree of parallelism '

GO
RECONFIGURE
GO

```

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Box 1: show advanced options

Advanced configuration options are displayed by first setting show advanced option to 1. Box 2: max worker threads

SQL Server uses the native thread services of the operating systems so that one or more threads support each network that SQL Server supports simultaneously, another thread handles database checkpoints, and a pool of threads handles all users. The default value for max worker threads is 0. This enables SQL Server to automatically configure the number of worker threads at startup. The default setting is best for most systems.

References:

<https://docs.microsoft.com/en-us/sql/database-engine/configure-windows/configure-the-max-worker-threads-ser>

**NEW QUESTION 3**

- (Exam Topic 1)

Note: This question is part of a series of questions that use the same scenario. For your convenience, the scenario is repeated in each question. Each question presents a different goal and answer choices, but the text of the scenario is exactly the same in each question in this series.

You are a database administrator for a company that has an on-premises Microsoft SQL Server environment and Microsoft Azure SQL Database instances. The environment hosts several customer databases, and each customer uses a dedicated instance. The environments that you manage are shown in the following table.

Customer	Cloud Type	Description
AdventureWorks Cycles	Private	The environment includes a database named <b>Adventureworks</b> that contains a single schema named ADVSchema. You must implement auditing for all objects in the ADVSchema schema. You must also implement auditing to record access to data that is considered sensitive by the company.
Tailspin Toys	Private	Tailspin Toys has a custom application that accesses a hosted database named <b>TSpinDB</b> . The application will monitor <b>TSpinDB</b> and capture information over time about which database objects are accessed and how frequently they are accessed.
Contoso, Ltd.	Private	The environment has a database named <b>ConDB</b> that was recently upgraded to Microsoft SQL Server 2016. Contoso reports that <b>ConDB</b> is slow to return results when the server is busy. You must modify the startup parameters to <b>ConDB</b> to optimize performance.
Wingtip Toys	Private	Wingtip Toys has a database named <b>WingDB</b> . All tables in the database have indexes. Users report system response time is slow during peak activity periods. You observe that the performance issues are related to locking.  Wingtip Toys receives data updates from suppliers each week. You must implement a process for importing the data into <b>WingDB</b> . You must use minimal logging and minimized data loss during import process.
Wide World Importers	Public	The environment includes a database named <b>WDWDB</b> . Neither auditing nor statistics are configured for <b>WDWDB</b> . You must log any deletion of views and all database record update operations.

You need to monitor WingDB and gather information for troubleshooting issues. What should you use?

- A. sp\_updatestats
- B. sp\_lock
- C. sys.dm\_os\_waiting\_tasks
- D. sys.dm\_tran\_active\_snapshot\_database\_transactions
- E. Activity Monitor

**Answer: B**

**Explanation:**

The sp\_lock system stored procedure is packaged with SQL Server and will give you insight into the locks that are happening on your system. This procedure returns much of its information from the syslock info in the master database, which is a system table that contains information on all granted, converting, and waiting lock requests.

Note: sp\_lock will be removed in a future version of Microsoft SQL Server. Avoid using this feature in new development work, and plan to modify applications that currently use this feature. To obtain information about locks in the SQL Server Database Engine, use the sys.dm\_tran\_locks dynamic management view. sys.dm\_tran\_locks returns information about currently active lock manager resources in SQL Server 2008 and later. Each row represents a currently active request to the lock manager for a lock that has been granted or is waiting to be granted.

References:

<https://docs.microsoft.com/en-us/sql/relational-databases/system-stored-procedures/sp-lock-transact-sql>

**NEW QUESTION 4**

- (Exam Topic 1)

You administer a single server that contains a Microsoft SQL Server 2016 default instance on which several production databases have been deployed. You plan to install a new ticketing application that requires the deployment of a database on the server. The SQL login for this application requires sysadmin permissions. You need to ensure that the login for the ticketing application cannot access other production databases. What should you do?

- A. Use the SQL Server default instance and enable Contained Databases.
- B. Use the SQL Server default instance and configure a user-defined server role.
- C. Add the login for the ticketing application to this role.
- D. Install a new named SQL Server instance on the server.
- E. Install a new default SQL Server instance on the server.

**Answer: C**

**Explanation:**

SQL Server supports multiple instances of SQL Server on a single server or processor, but only one instance can be the default instance. All others must be named instances. A computer can run multiple instances of SQL Server concurrently, and each instance runs independently of other instances.

References: [https://msdn.microsoft.com/en-us/library/ms143531\(v=SQL.105\).aspx](https://msdn.microsoft.com/en-us/library/ms143531(v=SQL.105).aspx)

**NEW QUESTION 5**

- (Exam Topic 1)

You administer a Windows Azure SQL Database database named Human\_Resources. The database contains 2 tables named Employees and SalaryDetails. You add two Windows groups as logins for the server:

CORP\Employees - All company employees

CORP\HRAdmins - HR administrators only

HR Administrators are also company employees.

You need to grant users access according to the following requirements:

CORP\Employees should have SELECT access to the Employees table.

Only users in CORP\HRAdmins should have SELECT access to the SalaryDetails table.

Logins are based only on Windows security groups.

What should you do?

- A. Create a database role called Employees. Add CORP\Employees to the db\_datareader role. Add all company employees except HR administrators to the Employees role. Deny SELECT access to the SalaryDetails table to the Employees role.
- B. Create a database role called HRAdmins. Add all company employees except HR administrators to the db\_datareader role. Add all HR administrators to the HRAdmins role. Grant SELECT access to the SalaryDetails table to the HRAdmins role. Deny SELECT access to the SalaryDetails table to the db\_datareader role.
- C. Create two database roles: Employees and HRAdmins. Add all company employees to the Employees role. Add HR administrators to the HRAdmins role. Grant SELECT access to all tables except SalaryDetails to the Employees role. Grant SELECT access to the SalaryDetails table to the HRAdmins role. Deny SELECT access to the SalaryDetails table to the Employees role.
- D. Create a database role called Employees. Add all HR administrators to the db\_datareader role. Add all company employees to the Employees role. Grant SELECT access to all tables except the SalaryDetails table to the Employees role. Deny SELECT access to the SalaryDetails table to the Employees role.

**Answer: D**

**NEW QUESTION 6**

- (Exam Topic 1)

You administer a Microsoft SQL Server 2016 server that hosts a transactional database and a reporting database.

The transactional database is updated through a web application and is operational throughout the day. The reporting database is only updated from the transactional database.

The recovery model and backup schedule are configured as shown in the following table:

Database	Description
Transactional database	<p>Recovery model:</p> <ul style="list-style-type: none"> <li>• Full</li> </ul> <p>Backup schedule:</p> <ul style="list-style-type: none"> <li>• Full database backup: midnight, daily</li> <li>• Differential database backup: on the hour, every two hours starting at 02:00 hours except at 00:00 hours</li> <li>• Log backup: every half hour, except at the times of full and differential backups</li> </ul>
Reporting database	<p>Recovery model:</p> <ul style="list-style-type: none"> <li>• Simple</li> </ul> <p>Backup schedule:</p> <ul style="list-style-type: none"> <li>• Full database backup: 01:00 hours daily</li> <li>• Differential database backup: 13:00 hours daily</li> </ul> <p>Data updates:</p> <ul style="list-style-type: none"> <li>• Changes in data are updated from the transactional database to the reporting database at 00:30 hours and at 12:30 hours</li> <li>• The update takes 15 minutes</li> </ul>

At 16:20 hours, you discover that pages 17, 137, and 205 on one of the database files are corrupted on the transactional database. You need to ensure that the transactional database is restored. You also need to ensure that data loss is minimal. What should you do?

- A. Perform a partial restore.
- B. Restore the latest full backup, and restore the latest differential backu
- C. Then, restore each log backup taken before the time of failure from the most recent differential backup.
- D. Perform a point-in-time restore.
- E. Restore the latest full backup.
- F. Restore the latest full backup, and restore the latest differential backu
- G. Then, restore the latest log backup.
- H. Perform a page restore.
- I. Restore the latest full backu
- J. Then, restore each differential backup taken before the time of failure from the most recent full backup.
- K. Restore the latest full backu
- L. Then, restore the latest differential backup.

**Answer: F**

**Explanation:**

The goal of a page restore is to restore one or more damaged pages without restoring the whole database. Typically, pages that are candidates for restore have been marked as "suspect" because of an error that is encountered when accessing the page.

Note: Requirements for Restoring Pages

A page restore is subject to the following requirements:

The databases must be using the full or bulk-logged recovery model. Etc.

References: <https://docs.microsoft.com/en-us/sql/relational-databases/backup-restore/restore-pages-sql-server>

**NEW QUESTION 7**

- (Exam Topic 1)

You administer a Microsoft SQL Server 2016 database.

You want to make a full backup of the database to a file on disk. In doing so, you need to output the progress of the backup. Which backup option should you use?

- A. STATS
- B. COMPRESSION
- C. CHECKSUM
- D. IN IT

**Answer: A**

**NEW QUESTION 8**

- (Exam Topic 1)

Note: This question is part of a series of questions that use the same or similar answer choices. An answer choice may be correct for more than one question in the series. Each question is independent of the other questions in this series. Information and details provided in a question apply only to that question.

A company has an on-premises Microsoft SQL Server environment and Microsoft Azure SQL Database instances. The environment hosts a customer database named DB1.

Customers connect to hosted database instances by using line-of-business applications. Developers connect by using SQL Server Management Studio (SSMS). You need to grant the developers permission to alter views for DB1 while following the principle of least privilege.

Which permission should you grant?

- A. DDLAdmin
- B. db\_datawriter
- C. dbcreator
- D. dbo
- E. View Database State
- F. View Server State
- G. View Definition
- H. sysadmin

**Answer:** A

**Explanation:**

To execute ALTER VIEW, at a minimum, ALTER permission on OBJECT is required.

Members of the db\_ddladmin fixed database role can run any Data Definition Language (DDL) command in a database.

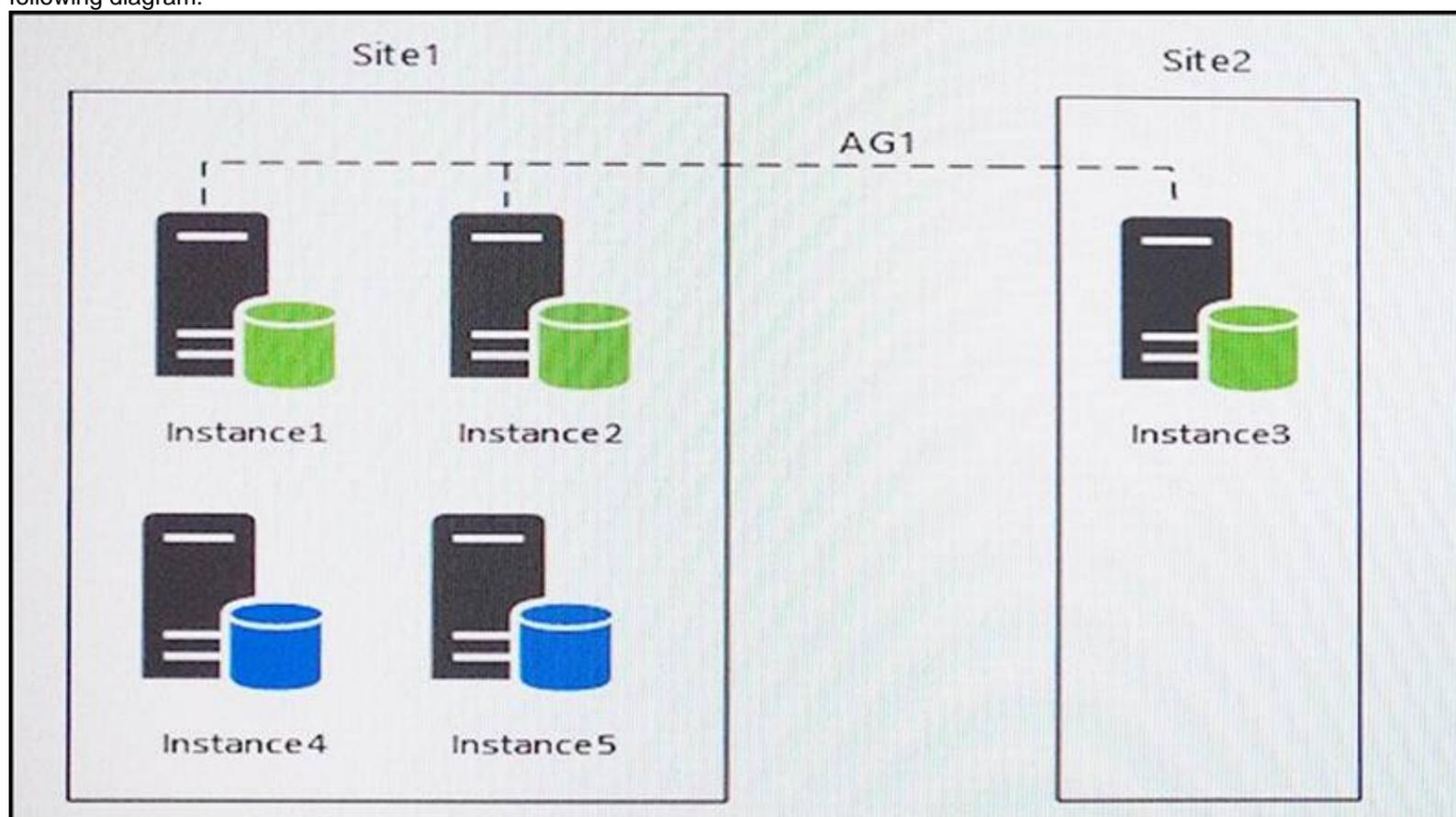
References: [https://technet.microsoft.com/en-us/library/ms190667\(v=sql.90\).aspx](https://technet.microsoft.com/en-us/library/ms190667(v=sql.90).aspx)

**NEW QUESTION 9**

- (Exam Topic 1)

Note: This question is part of a series of questions that use the same scenario. For your convenience, the scenario is repeated in each question. Each question presents a different goal and answer choices, but the text of the scenario is exactly the same in each question in this series.

You have five servers that run Microsoft Windows 2012 R2. Each server hosts a Microsoft SQL Server instance. The topology for the environment is shown in the following diagram.



You have an Always On Availability group named AG1. The details for AG1 are shown in the following table.

Instance	Node type
Instance1	Primary
Instance2	Synchronous readable secondary
Instance3	Asynchronous readable secondary

Instance1 experiences heavy read-write traffic. The instance hosts a database named OperationsMain that is four terabytes (TB) in size. The database has multiple data files and filegroups. One of the filegroups is read\_only and is half of the total database size.

Instance4 and Instance5 are not part of AG1. Instance4 is engaged in heavy read-write I/O.

Instance5 hosts a database named StagedExternal. A nightly BULK INSERT process loads data into an empty table that has a rowstore clustered index and two nonclustered rowstore indexes.

You must minimize the growth of the StagedExternal database log file during the BULK INSERT operations and perform point-in-time recovery after the BULK INSERT transaction. Changes made must not interrupt the log backup chain.

You plan to add a new instance named Instance6 to a datacenter that is geographically distant from Site1 and Site2. You must minimize latency between the nodes in AG1.

All databases use the full recovery model. All backups are written to the network location \\SQLBackup\. A separate process copies backups to an offsite location.

You should minimize both the time required to restore the databases and the space required to store backups. The recovery point objective (RPO) for each instance is shown in the following table.

Instance	Recovery point objective
Instance 1	5 minutes
Instance 2	5 minutes
Instance 3	5 minutes
Instance 4	60 minutes
Instance 5	24 hours

Full backups of OperationsMain take longer than six hours to complete. All SQL Server backups use the keyword COMPRESSION.

You plan to deploy the following solutions to the environment. The solutions will access a database named DB1 that is part of AG1.

Reporting system: This solution accesses data inDB1with a login that is mapped to a database user that is a member of the db\_datareader role. The user has EXECUTE permissions on the database. Queries make no changes to the data. The queries must be load balanced over variable read-only replicas.

Operations system: This solution accesses data inDB1with a login that is mapped to a database user that is a member of the db\_datareader and db\_datawriter roles. The user has EXECUTE permissions on the database. Queries from the operations system will perform both DDL and DML operations.

The wait statistics monitoring requirements for the instances are described in the following table.

Instance	Description
Instance1	Aggregate wait statistics since the last server restart.
Instance4	Identify the most prominent wait types for all the commands originating from a session, between session connections, or between application pool resets.
Instance5	Identify all the wait types for queries currently running on the server.

You need to propose a new process for the StagedExternal database.

Which five actions should you recommended be performed in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.

### Actions

Drop all nonclustered indexes on the target table.

Create a transaction log backup.  
Change the recovery model of **StagedExternal** to **SIMPLE**.

Run the nightly import process.

Change the recovery model of **StagedExternal** to **SIMPLE**.

Change the recovery model of **StagedExternal** to **FULL**. Create a transaction log backup.

Drop all clustered and nonclustered indexes on the target table.

Recreate any dropped indexes on the target table.

Create a transaction log backup.  
Change the recovery model of **StagedExternal** to **BULK\_LOGGED**.

### Answer Area



- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

From scenario: Instance5 hosts a database named StagedExternal. A nightly BULK INSERT process loads data into an empty table that has a rowstore clustered index and two nonclustered rowstore indexes.

You must minimize the growth of the StagedExternaldatabase log file during the BULK INSERT operations and perform point-in-time recovery after the BULK

INSERT transaction. Changes made must not interrupt the log backup chain.  
All databases use the full recovery model.  
References: [https://technet.microsoft.com/en-us/library/ms190421\(v=sql.105\).aspx](https://technet.microsoft.com/en-us/library/ms190421(v=sql.105).aspx)

**NEW QUESTION 10**

- (Exam Topic 1)

You administer a Microsoft SQL Server 2016 database named Orders.

Users report that during peak usage periods, certain operations are taking more time than expected. Your initial analysis suggests that blocking is the cause. You need to gather more data to be able to determine which processes are being blocked and to identify the root cause.

What should you do?

- A. Start a trace using SQL Server Profiler to catch the Lock: Deadlock event.
- B. Use `sp_configure` to set the blocked process threshold.
- C. Start a trace using SQL Server Profiler to catch the Blocked Process Report event.
- D. Schedule a SQL Agent job to run every 60 seconds and insert the results of executing the `sys.dm_os_wait_stats` DMV into a table.
- E. Use System Monitor to catch the Lock Waits/sec event.

**Answer: B**

**NEW QUESTION 10**

- (Exam Topic 1)

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You need to configure a Microsoft SQL Server instance to ensure that a user named Mail1 can send mail by using Database Mail.

Solution: You add the DatabaseMailUserRole to Mail1 in the msdb database. Does the solution meet the goal?

- A. Yes
- B. No

**Answer: A**

**Explanation:**

Database Mail is guarded by the database role DatabaseMailUserRole in the msdb database in order to prevent anyone from sending arbitrary emails. Database users or roles must be created in the msdb database and must also be a member of DatabaseMailUserRole in order to send emails with the exception of sysadmin who has all privileges.

Note: Database Mail was first introduced as a new feature in SQL Server 2005 and replaces the SQL Mail feature found in previous versions.

References:

[http://www.idevelopment.info/data/SQLServer/DBA\\_tips/Database\\_Administration/DBA\\_20.shtml](http://www.idevelopment.info/data/SQLServer/DBA_tips/Database_Administration/DBA_20.shtml)

**NEW QUESTION 15**

- (Exam Topic 1)

You are creating an application that will connect to the AgentPortal database by using a SQL login named AgentPortalUser. Stored procedures in the database will use `sp_send_dbmail` to send email messages.

You create a user account in the msdb database for the AgentPortalUser login.

You use the Database Mail Configuration Wizard to create a Database Mail profile. Security has not been configured for the Database Mail profile.

You need to ensure that AgentPortalUser can send email messages. What should you do?

- A. In the Database Mail Configuration Wizard, configure the Database Mail profile as a private profile for the AgentPortalUser account.
- B. Disable the guest user in the msdb database.
- C. Use the `sysmail_help_profileaccount_sp` stored procedure to add accounts to the Database Mail profile.
- D. In the Database Mail Configuration Wizard, create an email account for each recipient's email address in the Database Mail profile.

**Answer: A**

**Explanation:**

You enable and configure Database Mail using the Database Mail Configuration Wizard. Profiles are either public or private. A private profile is accessible only to specific users or roles.

References: <https://docs.microsoft.com/en-us/sql/relational-databases/database-mail/configure-database-mail>

**NEW QUESTION 17**

- (Exam Topic 1)

You plan to install a Microsoft SQL Server 2016 instance.

The instance will support a database that has the following requirements:

Store Excel workbooks on the file system.

Access the workbooks through Transact-SQL.

Include the workbooks in database backups.

During installation, you need to ensure that the requirements will be met.

Which feature should you use?

- A. Excel Services
- B. FILESTREAM
- C. SQL Server Integration Services (SSIS)
- D. OpenXML

**Answer: B**

**NEW QUESTION 21**

- (Exam Topic 1)

Note: This question is part of a series of questions that use the same or similar answer choices. An answer choice may be correct for more than one question in the series. Each question is independent of the other questions in this series. Information and details provided in a question apply only to that question. You manage a Microsoft SQL Server environment. You implement Transparent Data Encryption (TDE). A user will assist in managing TDE. You need to ensure that the user can view the TDE metadata while following the principle of least privilege. Which permission should you grant?

- A. DDLAdmin
- B. db\_datawriter
- C. dbcreator
- D. dbo
- E. View Database State
- F. View Server State
- G. View Definition
- H. sysadmin

**Answer: G**

**Explanation:**

Viewing the metadata involved with TDE requires the VIEW DEFINITION permission on the certificate. References: <https://docs.microsoft.com/en-us/sql/relational-databases/security/encryption/transparent-data-encryption-tde>

**NEW QUESTION 23**

- (Exam Topic 1)

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains one unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

Your company has several Microsoft SQL Server instances. Each instance hosts many databases. You observe I/O corruption on some of the instances.

You need to perform the following actions:

- identify databases where the PAGE verify option is not set.
- Configure full page protection for the identified databases. Solution: You run the following Transact-SQL statement:

```
SELECT NAME, page_verify_option_desc
FROM master.sys.databases
WHERE page_verify_option_desc != 'CHECKSUM'
GO
```

For each database that you identify, you run the following Transact SQL statement:

```
ALTER DATABASE <database_name>
SET PAGE_VERIFY CHECKSUM
```

Does the solution meet the goal?

- A. Yes
- B. No

**Answer: A**

**NEW QUESTION 24**

- (Exam Topic 1)

You install Microsoft SQL Server 2016 on a new server.

After setup is complete, you attempt to start the SQL Server service.

After being in a starting state for a few moments, the service goes back to a stopped state. You need to determine the cause of the failure. Which file should you use?

- A. %programfiles%\Microsoft SQLServer\MSSQL11.MSSQLSERVER\MSSQL\Log>Errorlog
- B. %programfiles%\Microsoft SQL Server\110\setupBootstrap\Log\Summary.txt
- C. %programfiles%\Microsoft SQL Server\MSSQL11.MSSQLSERVER\MSSQL\DATA\mastlog.idf
- D. %programfiles%\Microsoft SQLServer\110\Shared>ErrorDmpr[XXXX] .mdmp

**Answer: A**

**NEW QUESTION 28**

- (Exam Topic 1)

You use Microsoft SQL Server 2016 to write code for a transaction that contains several statements.

There is high contention between readers and writers on several tables used by your transaction. You need to minimize the use of the tempdb space.

You also need to prevent reading queries from blocking writing queries. Which isolation level should you use?

- A. SERIALIZABLE
- B. SNAPSHOT
- C. READ COMMITTED SNAPSHOT
- D. REPEATABLE READ

**Answer: C**

**Explanation:**

For most applications, read committed isolation using row versioning is recommended over snapshot isolation for the following reasons: It consumes less tempdb space than snapshot isolation. Etc.

References: <https://msdn.microsoft.com/en-us/library/ms188277.aspx>

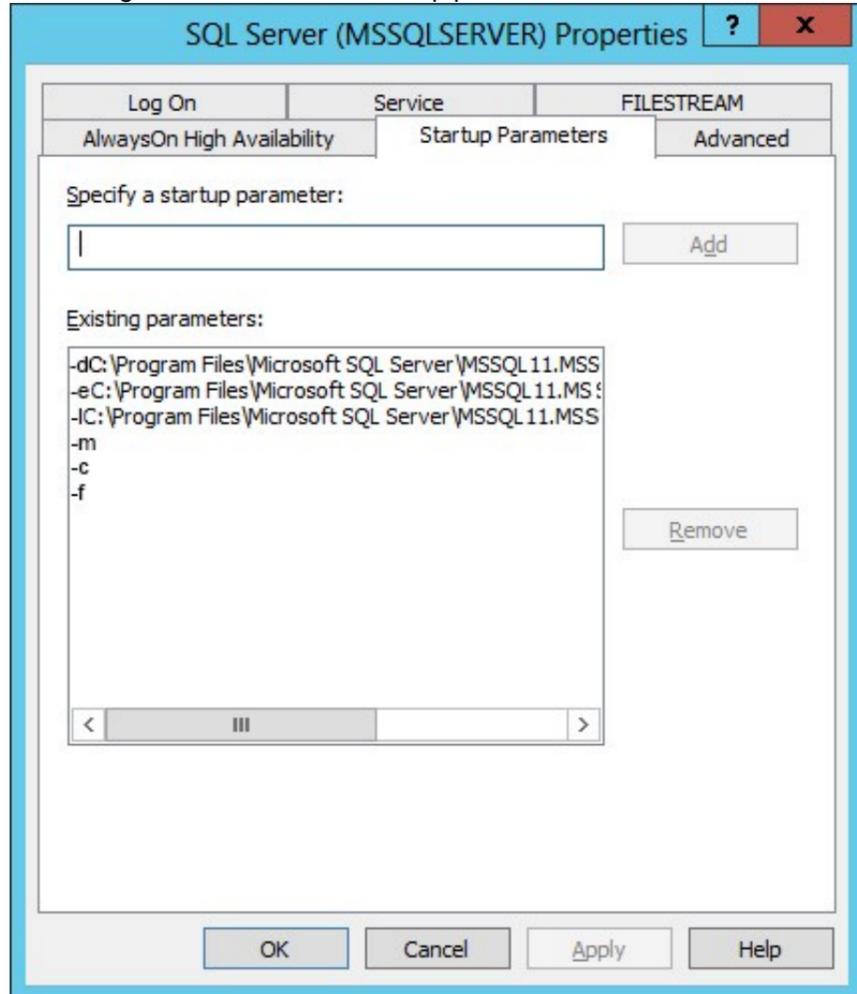
**NEW QUESTION 32**

- (Exam Topic 1)

You manage a Microsoft SQL Server environment. A server fails and writes the following event to the application event log:

MSG\_AUDIT\_FORCED\_SHUTDOWN

You configure the SQL Server startup parameters as shown in the following graphic:



Use the drop-down menus to select the answer choice that answers each question. NOTE: Each correct selection is worth one point.

## Answer Area

In which user mode will the SQL Server instance start?

▼
single-user
multi-user
restricted-user

With which server role can a local Windows administrator connect to the database?

▼
public
serveradmin
sysadmin
setupadmin

- A. Mastered
- B. Not Mastered

**Answer: A**

**Explanation:**

Box 1: single-user

The startup option -m starts an instance of SQL Server in single-user mode. Box 2: sysadmin

Starting SQL Server in single-user mode enables any member of the computer's local Administrators group to connect to the instance of SQL Server as a member of the sysadmin fixed server role.

References:

<https://docs.microsoft.com/en-us/sql/database-engine/configure-windows/database-engine-service-startup-option>

**NEW QUESTION 35**

- (Exam Topic 1)

You administer a Windows Azure SQL Database database named Inventory that contains a stored procedure named p\_AddInventory.

Users need to be able to SELECT from all tables in the database and execute the stored procedure. You need to grant only the necessary permissions. What should you do?

- A. Grant EXECUTE permission on p\_AddInventory to all user
- B. Grant VIEW DEFINITION to all users.
- C. Grant EXECUTE permission on p\_AddInventory to all user
- D. Add all users to the db\_datawriter role.
- E. Add all users to the db\_owner role.
- F. Grant EXECUTE permission on p\_AddInventory to all user
- G. Add all users to the db\_datareader role.

**Answer: D**

**NEW QUESTION 38**

- (Exam Topic 1)

You are the database administrator of a Microsoft SQL Server instance. Developers are writing stored procedures to send emails using sp\_send\_dbmail. Database Mail is enabled.

You need to configure each account's profile security and meet the following requirements:

Account SMTP1\_Account must only be usable by logins that have been given explicit permissions to use the SMTP1\_profile.

Account SMTP2\_Account must only be usable by logins who are a member of the [DatabaseMailUserRole] role in msdb.

In the table below, identify the profile type that must be used for each account. NOTE: Make only one selection in each column.

**Answer Area**

Profile type	SMTP1_Account	SMTP2_Account
Private Profile	<input type="radio"/>	<input type="radio"/>
Public Profile	<input type="radio"/>	<input type="radio"/>
Default Profile	<input type="radio"/>	<input type="radio"/>

- A. Mastered
- B. Not Mastered

**Answer: A**

**Explanation:**

SMTP1\_Account1: Private Profile

When no profile\_name is specified, sp\_send\_dbmail uses the default private profile for the current user. If user does not have a default private profile, sp\_send\_dbmail uses the default public profile for the msdb database.

SMTP1\_Account2: Default Profile

Execute permissions for sp\_send\_dbmail default to all members of the DatabaseMailUser database role in the msdb database.

References:

<https://docs.microsoft.com/en-us/sql/relational-databases/system-stored-procedures/sp-send-database-mail-transact-sql>

**NEW QUESTION 43**

- (Exam Topic 1)

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You need to configure a Microsoft SQL Server instance to ensure that a user named Mail1 can send mail by using Database Mail.

Solution: You add the DatabaseMailUserRole to Mail1 in the master database. Does the solution meet the goal?

- A. Yes
- B. No

**Answer: B**

**Explanation:**

Database Mail is guarded by the database role DatabaseMailUserRole in the msdb database, not the master database, in order to prevent anyone from sending arbitrary emails. Database users or roles must be created in the msdb database and must also be a member of DatabaseMailUserRole in order to send emails with the exception of sysadmin who has all privileges.

Note: Database Mail was first introduced as a new feature in SQL Server 2005 and replaces the SQL Mail feature found in previous versions.

References:

[http://www.idevelopment.info/data/SQLServer/DBA\\_tips/Database\\_Administration/DBA\\_20.shtml](http://www.idevelopment.info/data/SQLServer/DBA_tips/Database_Administration/DBA_20.shtml)

**NEW QUESTION 48**

- (Exam Topic 1)

You administer a Microsoft SQL Server 2016 database.

Users report that a billing application becomes unresponsive during busy times of the day. While investigating, you notice large number of processes taking or waiting for table locks. You suspect that SQL Server is assigning stronger locks to queries. You start a SQL Profiler trace. Which event should you select?

- A. Deadlock graph
- B. Lock: Escalation
- C. Lock: Timeout
- D. Lock: Deadlock

**Answer: B**

**NEW QUESTION 50**

- (Exam Topic 1)

You manage a Microsoft SQL Server environment. You plan to encrypt data when you create backups. You need to configure the encryption options for backups. What should you configure?

- A. a certificate
- B. an MD5 hash
- C. a DES key
- D. an AES 256-bit key

**Answer: D**

**Explanation:**

To encrypt during backup, you must specify an encryption algorithm, and an encryptor to secure the encryption key. The following are the supported encryption options:

Encryption Algorithm: The supported encryption algorithms are: AES 128, AES 192, AES 256, and Triple DES

Encryptor: A certificate or asymmetric Key

References: <https://docs.microsoft.com/en-us/sql/relational-databases/backup-restore/backup-encryption>

**NEW QUESTION 54**

- (Exam Topic 1)

You administer a Microsoft SQL Server 2016 database.

You have a SQL Server Agent job instance that runs using the service account. You have a job step within the job that requires elevated privileges.

You need to ensure that the job step can run using a different user account. What should you use?

- A. a schedule
- B. an alert
- C. an operator
- D. a proxy

**Answer: D**

**NEW QUESTION 57**

- (Exam Topic 1)

You have a database. The existing backups for the database and their corresponding files are listed in the following table.

Backup type	Backup date/time	File name
Full	05/02/2016 21:00	Full_20160502_2100.bak
Transaction log	05/03/2016 6:00	Log_20160503_0600.trn
Transaction log	05/03/2016 9:00	Log_20160503_0900.trn
Differential	05/03/2016 12:00	Diff_20160503_1200.bak
Transaction log	05/03/2016 15:00	Log_20160503_1500.trn
Differential	05/03/2016 17:00	Diff_20160503_1700.bak
Transaction log	05/03/2016 19:00	Log_20160503_1900.trn

You purchase a new server. You must restore the database to the new server. You need to restore the data to the most recent time possible.

Which three files should you restore in sequence? To answer, move the appropriate files from the list of files to the answer area and arrange them in the correct order.

**Files**

- Log\_20160503\_0600.trn
- Log\_20160503\_1500.trn
- Full\_20160502\_2100.bak
- Log\_20160503\_1900.trn
- Log\_20160503\_0900.trn
- Diff\_20160503\_1200.bak
- Diff\_20160503\_1700.bak

**Answer Area**



- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Step 1: Full.

Start with the full backup.

Step 2: Diff\_20160503\_1700.bak

Followed by the most recent differential backup. Step 3: Log\_20160503\_1900.bak

And finally the most recent log backup (the only log backup done after the most recent differential backup).

References:

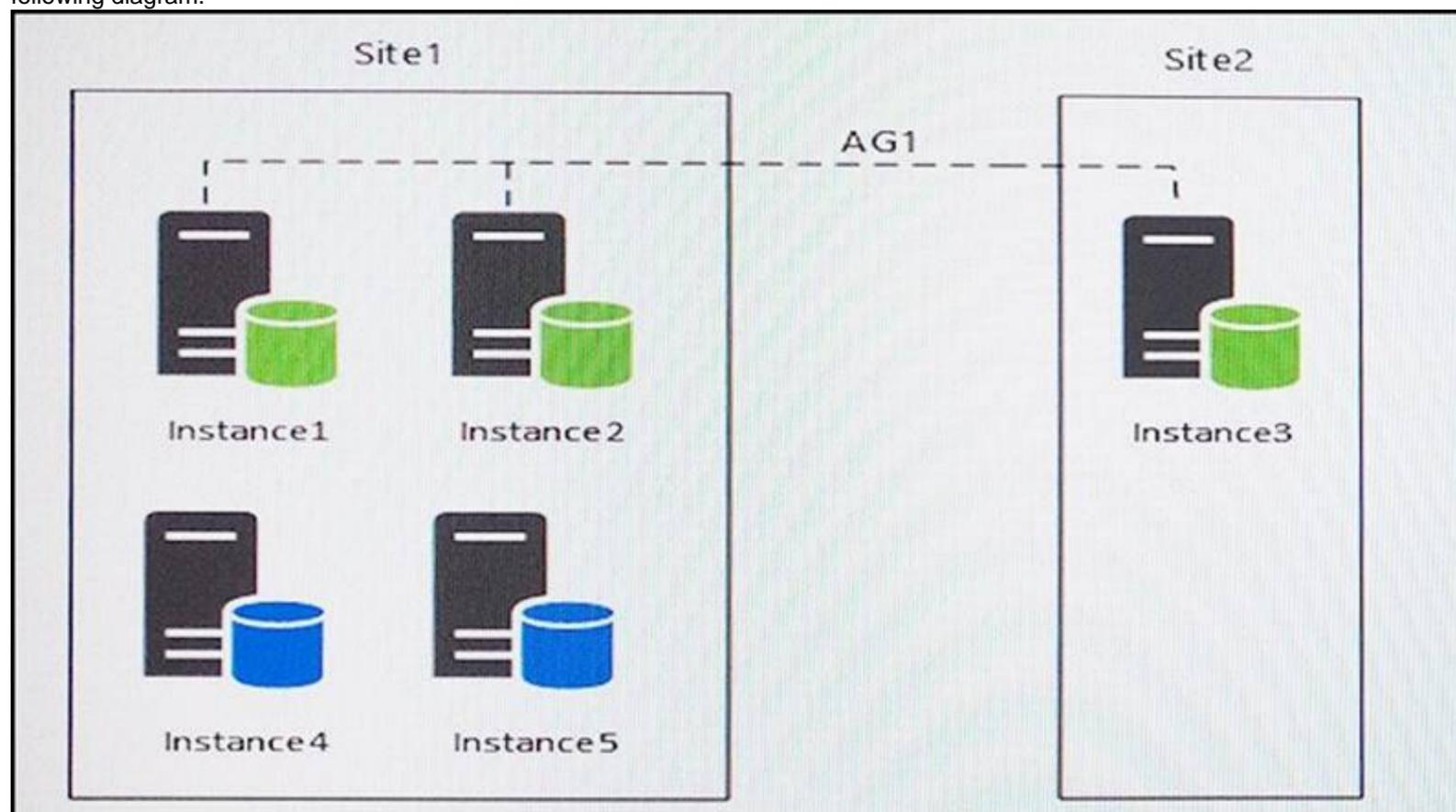
<https://docs.microsoft.com/en-us/sql/relational-databases/backup-restore/differential-backups-sql-server>

**NEW QUESTION 61**

- (Exam Topic 1)

Note: This question is part of a series of questions that use the same scenario. For your convenience, the scenario is repeated in each question. Each question presents a different goal and answer choices, but the text of the scenario is exactly the same in each question in this series.

You have five servers that run Microsoft Windows 2012 R2. Each server hosts a Microsoft SQL Server instance. The topology for the environment is shown in the following diagram.



You have an Always On Availability group named AG1. The details for AG1 are shown in the following table.

Instance	Node type
Instance1	Primary
Instance2	Synchronous readable secondary
Instance3	Asynchronous readable secondary

Instance1 experiences heavy read-write traffic. The instance hosts a database named OperationsMain that is four terabytes (TB) in size. The database has multiple data files and filegroups. One of the filegroups is read\_only and is half of the total database size.

Instance4 and Instance5 are not part of AG1. Instance4 is engaged in heavy read-write I/O.

Instance5 hosts a database named StagedExternal. A nightly BULK INSERT process loads data into an empty table that has a rowstore clustered index and two nonclustered rowstore indexes.

You must minimize the growth of the StagedExternal database log file during the BULK INSERT operations and perform point-in-time recovery after the BULK INSERT transaction. Changes made must not interrupt the log backup chain.

You plan to add a new instance named Instance6 to a datacenter that is geographically distant from Site1 and Site2. You must minimize latency between the nodes in AG1.

All databases use the full recovery model. All backups are written to the network location \\SQLBackup\. A separate process copies backups to an offsite location.

You should minimize both the time required to restore

the databases and the space required to store backups. The recovery point objective (RPO) for each instance is shown in the following table.

Instance	Recovery point objective
Instance 1	5 minutes
Instance 2	5 minutes
Instance 3	5 minutes
Instance 4	60 minutes
Instance 5	24 hours

Full backups of OperationsMain take longer than six hours to complete. All SQL Server backups use the keyword COMPRESSION.

You plan to deploy the following solutions to the environment. The solutions will access a database named DB1 that is part of AG1.

Reporting system: This solution accesses data inDB1with a login that is mapped to a database user that is a member of the db\_datareader role. The user has EXECUTE permissions on the database. Queries make no changes to the data. The queries must be load balanced over variable read-only replicas.

Operations system: This solution accesses data inDB1with a login that is mapped to a database user that is a member of the db\_datareader and db\_datawriter roles. The user has EXECUTE permissions on the database. Queries from the operations system will perform both DDL and DML operations.

The wait statistics monitoring requirements for the instances are described in the following table.

Instance	Description
Instance1	Aggregate wait statistics since the last server restart.
Instance4	Identify the most prominent wait types for all the commands originating from a session, between session connections, or between application pool resets.
Instance5	Identify all the wait types for queries currently running on the server.

You need to create a backup plan for Instance4. Which backup plan should you create?

- A. Weekly full backups, nightly differentia
- B. No transaction log backups are necessary.
- C. Weekly full backups, nightly differential backups, transaction log backups every 5 minutes.
- D. Weekly full backups, nightly differential backups, transaction log backups every 12 hours.
- E. Full backups every 60 minutes, transaction log backups every 30 minutes.

**Answer: B**

**Explanation:**

From scenario: Instance4 and Instance5 are not part of AG1. Instance4 is engaged in heavy read-write I/O. The recovery point objective of Instance4 is 60 minutes. RecoveryPoint Objectives are commonly described as the amount of data that was lost during the outage and recovery period. You should minimize both the time required to restore the databases and the space required to store backups.

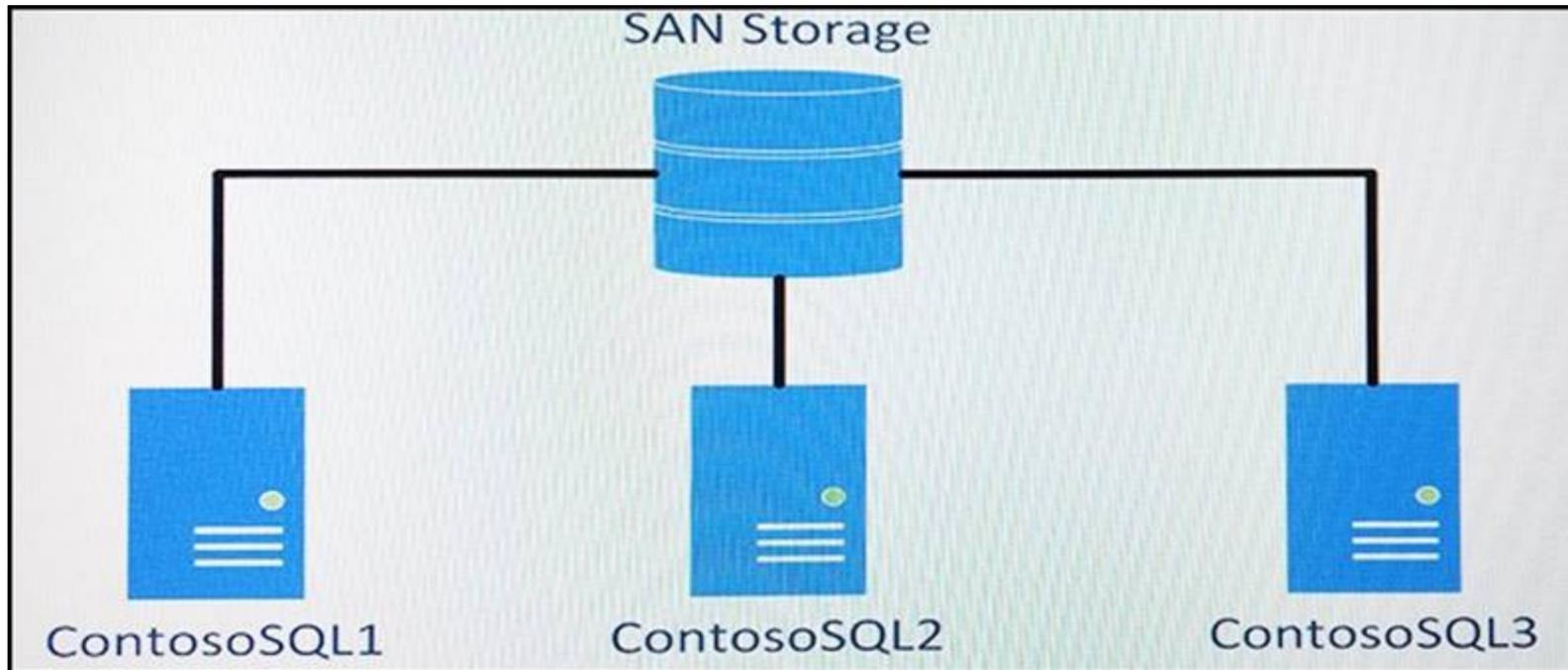
References:

<http://sqlmag.com/blog/sql-server-recovery-time-objectives-and-recovery-point-objectives>

**NEW QUESTION 62**

- (Exam Topic 1)

You are planning the deployment of two new Always On Failover Cluster Instances (FCIs) of Microsoft SQL Server to a single Windows Server Cluster with three nodes. The planned configuration for the cluster is shown in the Server Layout exhibit. (Click the Exhibit button.)



The SAN team has configured storage for the cluster and sent the configuration to you in the email shown in the SAN Team Email exhibit. (Click the Exhibit button.)

Conversation                      SAN Storage for new SQL Cluster  
 Subject                              SAN Storage for new SQL Cluster  
 DBA Team,  
 The following LUNs have been presented to the three servers of the new SQL Cluster:  
 Two 1 TB drives  
 Two 500 GB drives  
 Two 75 GB drives

...  
 Contoso SAN Admins

Each node of the cluster has identical local storage available as shown in the Local Storage exhibit. (Click the Exhibit button.)



All local storage is on SSD.  
 You need to plan specific configurations for the new cluster.  
 For each of the following statement, select Yes if the statement is true. Otherwise, select No.

## Answer Area

Statements	Yes	No
The Tempdb database for each cluster instance can be placed on the D: drive for the instance.	<input type="radio"/>	<input type="radio"/>
One virtual network name for each SQL Server instance must be configured in the cluster.	<input type="radio"/>	<input type="radio"/>
The shared storage has been formatted and configured on ContosoSQL1.	<input type="radio"/>	<input type="radio"/>

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Box 1: Yes

tempdb on local storage. FCIs now support placement of tempdb on local non-shared storage, such as a local solid-state-drive, potentially offloading a significant amount of I/O from a shared SAN.

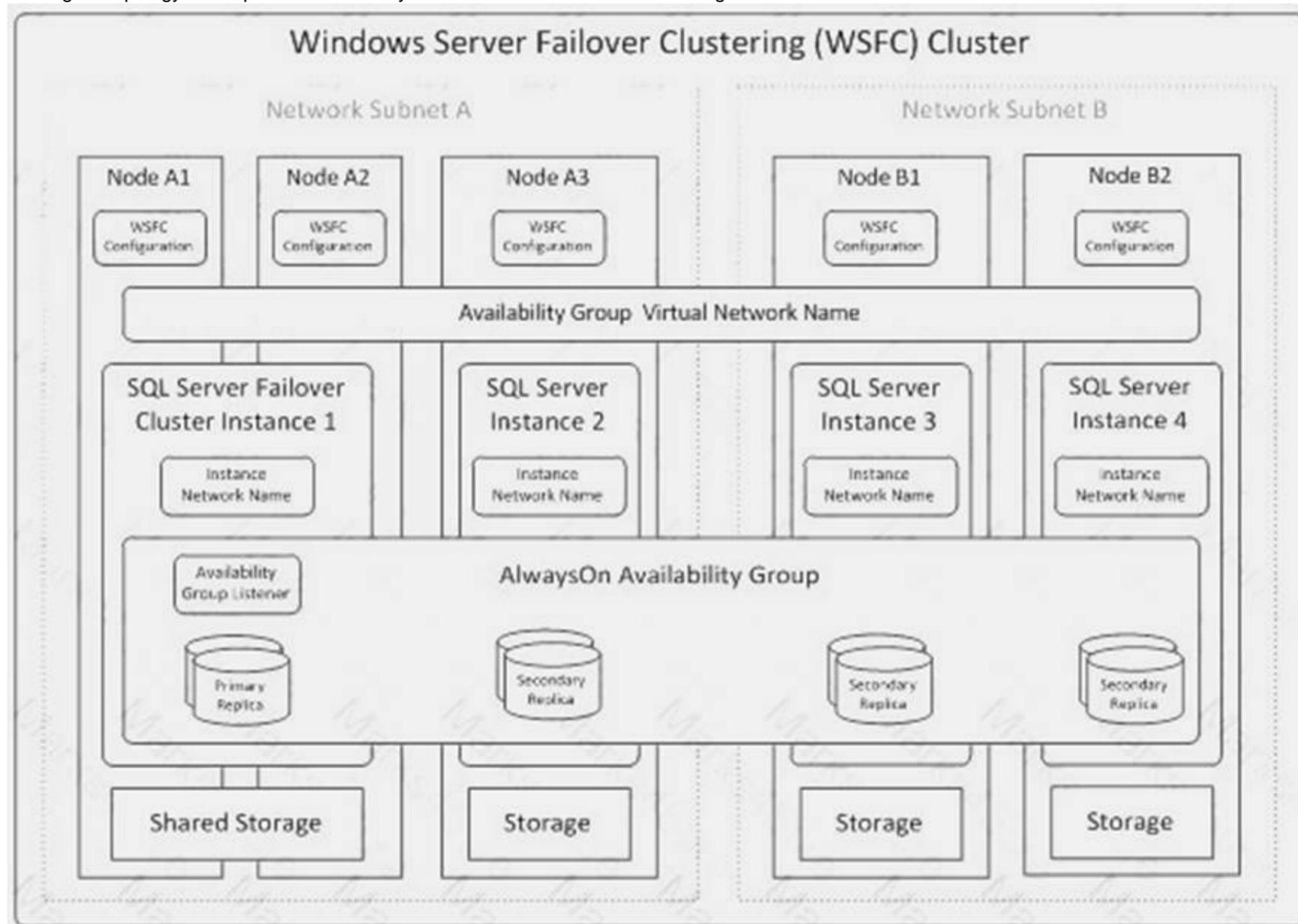
Prior to SQL Server 2012, FCIs required tempdb to be located on a symmetrical shared storage volume that failed over with other system databases.

Box 2: No

The VNN is set on the group level, not on the instance level.

Database client applications can connect directly to a SQL Server instance network name, or they may connect to a virtual network name (VNN) that is bound to an availability group listener. The VNN abstracts the WSFC cluster and availability group topology, logically redirecting connection requests to the appropriate SQL Server instance and database replica.

The logical topology of a representative AlwaysOn solution is illustrated in this diagram:



Box 3: No

You don't configure the SAN from a SQL Server, instead you can use a Microsoft Server server.

References:

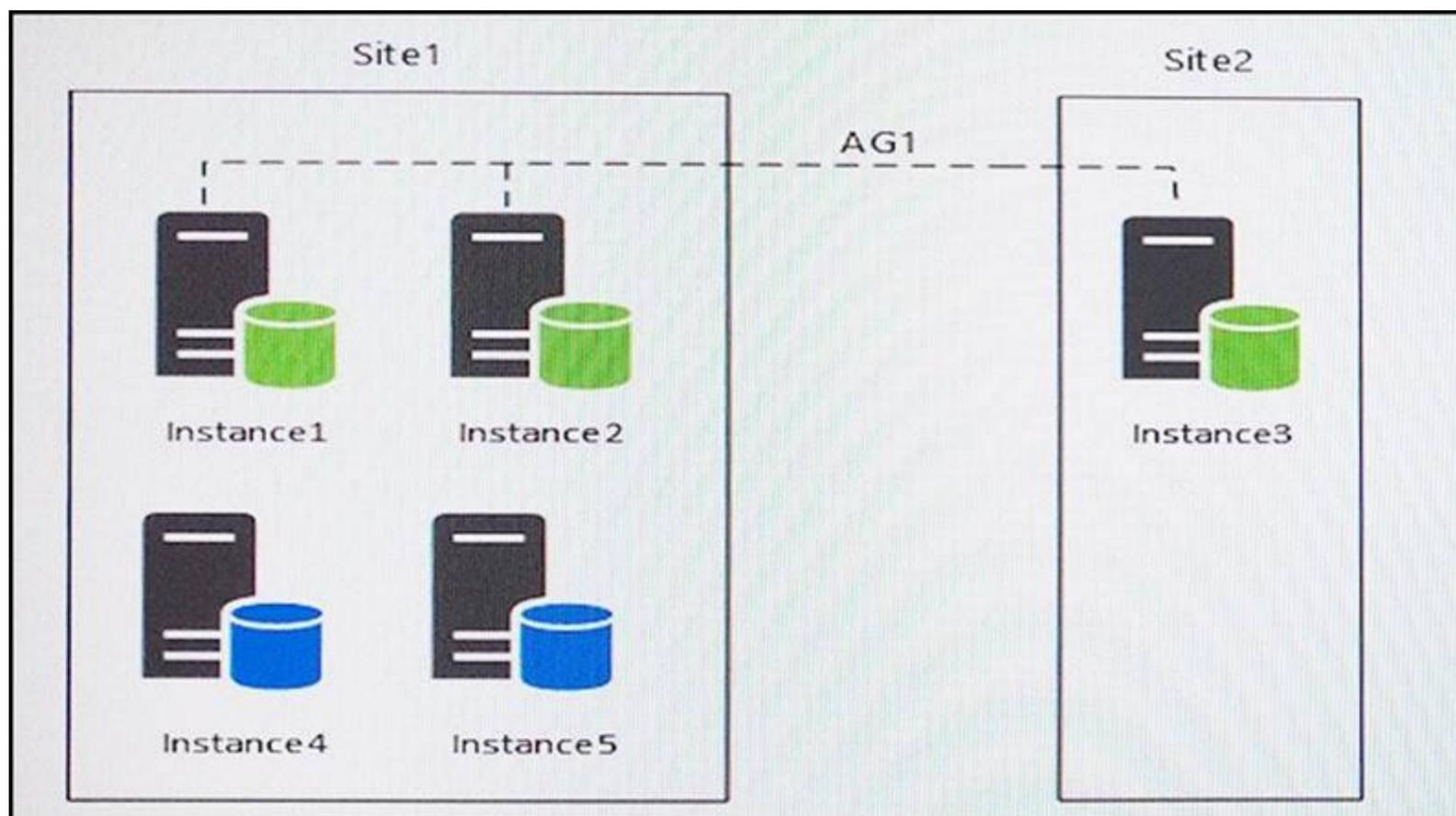
<http://download.microsoft.com/download/d/2/0/d20e1c5f-72ea-4505-9f26-fef9550efd44/microsoft%20sql%20se>

**NEW QUESTION 63**

- (Exam Topic 1)

Note: This question is part of a series of questions that use the same scenario. For your convenience, the scenario is repeated in each question. Each question presents a different goal and answer choices, but the text of the scenario is exactly the same in each question in this series.

You have five servers that run Microsoft Windows 2012 R2. Each server hosts a Microsoft SQL Server instance. The topology for the environment is shown in the following diagram.



You have an Always On Availability group named AG1. The details for AG1 are shown in the following table.

Instance	Node type
Instance1	Primary
Instance2	Synchronous readable secondary
Instance3	Asynchronous readable secondary

Instance1 experiences heavy read-write traffic. The instance hosts a database named OperationsMain that is four terabytes (TB) in size. The database has multiple data files and filegroups. One of the filegroups is read\_only and is half of the total database size.

Instance4 and Instance5 are not part of AG1. Instance4 is engaged in heavy read-write I/O.

Instance5 hosts a database named StagedExternal. A nightly BULK INSERT process loads data into an empty table that has a rowstore clustered index and two nonclustered rowstore indexes.

You must minimize the growth of the StagedExternal database log file during the BULK INSERT operations and perform point-in-time recovery after the BULK INSERT transaction. Changes made must not interrupt the log backup chain.

You plan to add a new instance named Instance6 to a datacenter that is geographically distant from Site1 and Site2. You must minimize latency between the nodes in AG1.

All databases use the full recovery model. All backups are written to the network location \\SQLBackup\. A separate process copies backups to an offsite location.

You should minimize both the time required to restore

the databases and the space required to store backups. The recovery point objective (RPO) for each instance is shown in the following table.

Instance	Recovery point objective
Instance 1	5 minutes
Instance 2	5 minutes
Instance 3	5 minutes
Instance 4	60 minutes
Instance 5	24 hours

Full backups of OperationsMain take longer than six hours to complete. All SQL Server backups use the keyword COMPRESSION.

You plan to deploy the following solutions to the environment. The solutions will access a database named DB1 that is part of AG1.

Reporting system: This solution accesses data inDB1with a login that is mapped to a database user that is a member of the db\_datareader role. The user has EXECUTE permissions on the database. Queries make no changes to the data. The queries must be load balanced over variable read-only replicas.

Operations system: This solution accesses data inDB1with a login that is mapped to a database user that is a member of the db\_datareader and db\_datawriter roles. The user has EXECUTE permissions on the database. Queries from the operations system will perform both DDL and DML operations.

The wait statistics monitoring requirements for the instances are described in the following table.

Instance	Description
Instance1	Aggregate wait statistics since the last server restart.
Instance4	Identify the most prominent wait types for all the commands originating from a session, between session connections, or between application pool resets.
Instance5	Identify all the wait types for queries currently running on the server.

You need to reduce the amount of time it takes to backup OperationsMain. What should you do?

- A. Modify the backup script to use the keyword SKIP in the FILE\_SNAPSHOT statement.
- B. Modify the backup script to use the keyword SKIP in the WITH statement
- C. Modify the backup script to use the keyword NO\_COMPRESSION in the WITH statement.

D. Modify the full database backups script to stripe the backup across multiple backup files.

**Answer:** D

**Explanation:**

One of the filegroup is read\_only should be as it only need to be backup up once. Partial backups are useful whenever you want to exclude read-only filegroups. A partial backup resembles a full database backup, but a partial backup does not contain all the filegroups. Instead, for a read-write database, a partial backup contains the data in the primary filegroup, every read-write filegroup, and, optionally, one or more read-only files. A partial backup of a read-only database contains only the primary filegroup.

From scenario: Instance1 experiences heavy read-write traffic. The instance hosts a database named OperationsMain that is four terabytes (TB) in size. The database has multiple data files and filegroups. One of the filegroups is read\_only and is half of the total database size.

References:

<https://docs.microsoft.com/en-us/sql/relational-databases/backup-restore/partial-backups-sql-server>

**NEW QUESTION 65**

- (Exam Topic 1)

You have a database named DB1 that is configured to use the full recovery model. You have a full daily backup job that runs at 02:00. The job backs up data from DB1 to the file B:\DB1.bak.

You need to restore the DB1 database to the point in time of May 25, 2016 at 02:23 and ensure that the database is functional and starts to accept connections. Which Transact-SQL statement should you run?

A.

```
BACKUP LOG [DB1] TO DISK = N'B:\DB1Log.bak' WITH RECOVERY
RESTORE DATABASE [DB1] FROM DISK = N'B:\DB1.bak' WITH NORECOVERY
RESTORE LOG [DB1] FROM DISK = N'B:\DB1Log.bak' WITH STOPAT = N'2016-05-25T02:23:00'
```

B.

```
BACKUP LOG [DB1] TO DISK = N'B:\DB1Log.bak' WITH NORECOVERY
RESTORE DATABASE [DB1] FROM DISK = N'B:\DB1.bak' WITH NORECOVERY
RESTORE LOG [DB1] FROM DISK = N'B:\DB1Log.bak' WITH STOPAT = N'2016-05-25T02:23:00'
```

C.

```
BACKUP LOG [DB1] TO DISK = N'B:\DB1Log.bak' WITH NORECOVERY
RESTORE DATABASE [DB1] FROM DISK = N'B:\DB1.bak' WITH NORECOVERY
RESTORE LOG [DB1] FROM DISK = N'B:\DB1Log.bak' WITH STOPAT = N'2016-05-25T02:23:00', NORECOVERY
```

D.

```
RESTORE DATABASE [DB1] FROM DISK = N'B:\DB1.bak' WITH STOPAT = N'2016-05-25T02:23:00', RECOVERY
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

**Answer:** B

**NEW QUESTION 66**

- (Exam Topic 1)

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You need to configure a Microsoft SQL Server instance to ensure that a user named Mail1 can send mail by using Database Mail.

Solution: You add the DatabaseMailUserRole to Mail1 in the tempdb database. Does the solution meet the goal?

- A. Yes
- B. No

**Answer:** B

**Explanation:**

Database Mail is guarded by the database role DatabaseMailUserRole in the msdb database, not the tempdb database, in order to prevent anyone from sending arbitrary emails. Database users or roles must be created in the msdb database and must also be a member of DatabaseMailUserRole in order to send emails with the exception of sysadmin who has all privileges.

Note: Database Mail was first introduced as a new feature in SQLServer 2005 and replaces the SQL Mail feature found in previous versions.

References:

[http://www.idevelopment.info/data/SQLServer/DBA\\_tips/Database\\_Administration/DBA\\_20.shtml](http://www.idevelopment.info/data/SQLServer/DBA_tips/Database_Administration/DBA_20.shtml)

**NEW QUESTION 69**

- (Exam Topic 1)

You administer a Microsoft SQL Server 2016 environment.

One of the SQL Server 2016 instances contains a database named Sales. You plan to migrate Sales to Windows Azure SQL Database.

To do so, you need to implement a contained database.

What should you do? (Each correct answer presents part of the solution. Choose all that apply.)

- A. Set database containment to AZURE.
- B. Enable server property contained database authentication.
- C. Disable server property cross db ownership chaining.
- D. Set database containment to PARTIAL.
- E. Disable server property contained database authentication.
- F. Set database containment to FULL.

**Answer:** BD

**NEW QUESTION 71**

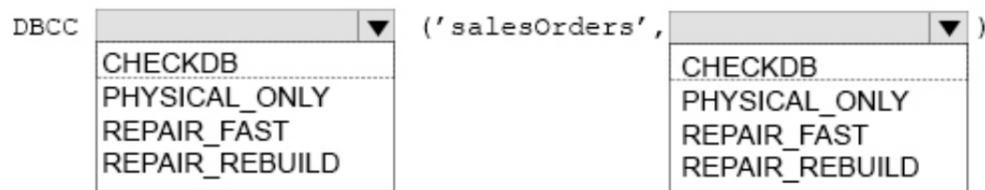
- (Exam Topic 1)

You manage a Microsoft-SQL Server database named sales Orders.

You need to verify the integrity of the database and attempt to repair any errors that are found. Repair must not cause any data to be lost in the database.

How should you complete the DBCC command? To answer, select the appropriate options in the answer area.

**Answer Area**



- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Box 1: CHECKDB

DBCC CHECKDB checks the logical and physical integrity of all the objects in the specified database. Partial syntax:

DBCC CHECKDB

[ ( database\_name | database\_id | 0 [ , NOINDEX  
| , { REPAIR\_ALLOW\_DATA\_LOSS | REPAIR\_FAST | REPAIR\_REBUILD } ]

....

Box 2: REPAIR\_REBUILD

DBCC CHECKDB ...REPAIR\_ALLOW\_DATA\_LOSS | REPAIR\_FAST |REPAIR\_REBUILD specifies that

DBCC CHECKDB repair the found errors.

REPAIR\_REBUILD performs repairs that have no possibility of data loss. This can include quick repairs, such as repairing missing rows in non-clustered indexes, and more time-consuming repairs, such as rebuilding an index.

References: <https://docs.microsoft.com/en-us/sql/t-sql/database-console-commands/dbcc-checkdb-transact-sql>

**NEW QUESTION 74**

- (Exam Topic 1)

Note: This question is part of a series of questions that use the same or similar answer choices. An answer choice may be correct for more than one question in the series. Each question is independent of the other questions in this series. Information and details provided in a question apply only to that question.

You are the database administrator for a company that hosts Microsoft SQL Server. You manage both on-premises and Microsoft Azure SQL Database environments.

Clients connect to databases by using line-of-business applications. Developers connect by using SQL Server Management Studio (SSMS).

You need to provide permissions to a service account that will be used to provision a new database for a client. Which permission should you grant?

- A. DDLAdmin
- B. db\_datawriter
- C. dbcreator
- D. dbo
- E. View Database State
- F. View Server State
- G. View Definition
- H. sysadmin

**Answer:** C

**Explanation:**

Members of the dbcreator fixed server role can create, alter, drop, and restore any database.

References:

<https://docs.microsoft.com/en-us/sql/relational-databases/security/authentication-access/server-level-roles>

**NEW QUESTION 77**

- (Exam Topic 1)

You manage a Microsoft SQL Server instance. You have a user named User1.

You need to grant the minimum permissions necessary to allow User1 to review audit logs.

For each action, which option should you use? To answer, select the appropriate options in the answer area.

## Answer Area

### Actions

### Options

User1 server role assignment

▼
diskadmin
serveradmin
securityadmin
setupadmin

Transact-SQL syntax

▼
sys.server_file_audits
sys.server_audit_specifications
sys.server_file_permissions
sys.server_principals

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Box 1: securityadmin

To access log files for instances of SQL Server that are online, this requires membership in the securityadmin fixed server role.

Box 2: sys.server\_audit\_specifications

sys.server\_audit\_specifications contains information about the server audit specifications in a SQL Server audit on a server instance.

**NEW QUESTION 79**

- (Exam Topic 1)

You administer a Microsoft SQL Server 2016 database instance.

You plan to migrate the database to Windows Azure SQL Database.

You verify that all objects contained in the database are compatible with Windows Azure SQL Database. You need to ensure that database users and required server logins are migrated to Windows Azure SQL Database.

What should you do?

- A. Use the Copy Database wizard.
- B. Back up the database from the local server and restore it to Windows Azure SQL Database.
- C. Use the Database Transfer wizard.
- D. Use SQL Server Management Studio to deploy the database to Windows Azure SQL Database.

**Answer:** D

**NEW QUESTION 82**

- (Exam Topic 1)

You administer a Microsoft SQL Server 2016 server that hosts a transactional database and a reporting database.

The transactional database is updated through a web application and is operational throughout the day. The reporting database is only updated from the transactional database.

The recovery model and backup schedule are configured as shown in the following table:

Database	Description
Transactional database	<p>Recovery model:</p> <ul style="list-style-type: none"> <li>• Full</li> </ul> <p>Backup schedule:</p> <ul style="list-style-type: none"> <li>• Full database backup: midnight, daily</li> <li>• Differential database backup: on the hour, every two hours starting at 02:00 hours except at 00:00 hours</li> <li>• Log backup: every half hour, except at the times of full and differential backups</li> </ul>
Reporting database	<p>Recovery model:</p> <ul style="list-style-type: none"> <li>• Simple</li> </ul> <p>Backup schedule:</p> <ul style="list-style-type: none"> <li>• Full database backup: 01:00 hours daily</li> <li>• Differential database backup: 13:00 hours daily</li> </ul> <p>Data updates:</p> <ul style="list-style-type: none"> <li>• Changes in data are updated from the transactional database to the reporting database at 00:30 hours and at 12:30 hours</li> <li>• The update takes 15 minutes</li> </ul>

The differential backup of the reporting database fails. Then, the reporting database fails at 14:00 hours. You need to ensure that the reporting database is restored. You also need to ensure that data loss is minimal. What should you do?

- A. Restore the latest full backup, and restore the latest differential backu
- B. Then, restore the latest log backup.
- C. Perform a point-in-time restore.
- D. Restore the latest full backup.
- E. Restore the latest full backup, and restore the latest differential backu
- F. Then, restore each log backup taken before the time of failure from the most recent differential backup.
- G. Restore the latest full backu
- H. Then, restore the latest differential backup.
- I. Restore the latest full backu
- J. Then, restore each differential backup taken before the time of failure from the most recent full backup.
- K. Perform a page restore.
- L. Perform a partial restore.

**Answer: C**

**Explanation:**

The differential backup of the reporting database has failed, so it can't be used.

**NEW QUESTION 84**

- (Exam Topic 1)

You administer a Microsoft SQL Server 2016 database.

Users report that an application that accesses the database displays an error, but the error does not provide meaningful information.

No entries are found in the SQL Server log or Windows event logs related to the error. You need to identify the root cause of the issue by retrieving the error message.

What should you do?

- A. Create an Extended Events session by using the sqlserver.error\_reported event.
- B. Create a SQL Profiler session to capture all ErrorLog and EventLog events.
- C. Flag all stored procedures for recompilation by using sp\_recompile.
- D. Execute sp\_who.

**Answer: A**

**Explanation:**

#### Trapping SQL Server Errors with Extended Events

One very useful usage of Extended Events is the ability to trap SQL Server error without the need to have a server trace running (which, btw, is deprecated), with the additional feature of being able to query the data as soon as it comes in. This means that we a solution to monitor and trap errors as soon as they happen can be easily created, in order to help developers to fix problems as soon as they are detected. This is really, really, really helpful especially in very big applications, where the code base is quite old and there is no-one really knowing everything of the solution.

To start a Extended Events sessions in order to trap SQL Server errors with severity greater than 10, just run the following script:

```
CREATE EVENT SESSION [error_trap] ON SERVER
```

```
ADD EVENT sqlserver.error_reported Etc.
```

References:

[http://sqlblog.com/blogs/davide\\_mauri/archive/2013/03/17/trapping-sql-server-errors-with-extended-events.aspx](http://sqlblog.com/blogs/davide_mauri/archive/2013/03/17/trapping-sql-server-errors-with-extended-events.aspx)

#### **NEW QUESTION 86**

- (Exam Topic 1)

You are the administrator of a Microsoft SQL Server 2016 server. Some applications consume significant resources.

You need to manage the server workload by restricting resource-intensive applications. You need to dynamically limit resource consumption.

What should you do?

- A. Set up Service Broker to ensure that applications are not allowed to consume more than the specified amount of resources.
- B. Configure Resource Pools, Workload Groups, and Classifier Function, and then enable the Resource Governor.
- C. Configure Extended Events to monitor and restrict resource limits allowed by each application type.
- D. Create a new Plan Guide with a Scope Type of sql and define the resource limits for each application.

**Answer: B**

#### **NEW QUESTION 91**

- (Exam Topic 1)

You are configuring log shipping for a Microsoft SQL Server database named salesOrders. You run the following Transact-SQL script:

```

DECLARE @LS_BackupJobId AS uniqueidentifier
DECLARE @LS_PrimaryId AS uniqueidentifier
DECLARE @SP_Add_RetCode As int
EXEC @SP_Add_RetCode = master.dbo.sp_add_log_shipping_primary_database
    @database = N'salesOrders'
    ,@backup_directory = N'C:\Backup'
    ,@backup_share = N'\\localhost\Backup'
    ,@backup_job_name = N'LSBackup_salesOrders'
    ,@backup_retention_period = 4320
    ,@backup_compression = 1
    ,@backup_threshold = 60
    ,@threshold_alert_enabled = 1
    ,@history_retention_period = 5760
    ,@backup_job_id = @LS_BackupJobId OUTPUT
    ,@primary_id = @LAS_PrimaryId OUTPUT
    ,@overwrite = 1
IF (@@ERROR = 0 AND @SP_Add_RetCode = 0)
    BEGIN
        DECLARE @LS_BackUpScheduleUID As uniqueidentifier
        DECLARE @LA_BackUpScheduleID AS int
        EXEC msdb.dbo.sp_add_schedule
            @schedule_name = N'LSBackupSchedule_ADATUM-SQL11'
            ,@enabled = 1
            ,@freq_type = 4
            ,@freq_interval = 1
            ,@freq_subday_type = 4
            ,@freq_subday_interval = 15
            ,@freq_recurrence_factor = 0
            ,@active_start_date = 20160720
            ,@active_end_date = 99991231
            ,@active_start_time = 0
            ,@active_end_time = 235900
            ,@schedule_uid = @LS_BackUpScheduleUID OUTPUT
            ,@schedule_id = @LS_BackupScheduleID OUTPUT
        EXEC msdb.dbo.sp_attach_schedule
            @job_id = @LS_BackupJobId
            ,@schedule_id = @LS_BackupScheduleID
        EXEC msdb.dbo.sp_update_job
            @job_id = @LS_BackupJobId
            ,@enabled = 1
    END
EXEC master.dbo.sp_add_log_shipping_alert_job

```

You need to determine the changes that the script has on the environment.

How does the script affect the environment? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.

## Answer Area

A dedicated file share [answer choice] used to store the backups.

is
is not

A SQL Server monitor instance [answer choice] on a server named ADATUM-SQL11.

runs
does not run

Backup files will be deleted after [answer choice].

24 hours
48 hours
72 hours

The backup job will run every [answer choice].

15 minutes
60 minutes
24 hours

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Box 1: is

The dedicated backup file share is \\localhost\Backup Box 2: does not run

The only thing with a name related to ADATM-SQL11 is the schedule name. Box 3: 72 hours

4320 minutes equals 72 hours.

Note: @backup\_retention\_period= ] backup\_retention\_period

Isthe length of time, in minutes, to retain the log backup file in the backup directory on the primary server. backup\_retention\_period is int, with no default, and cannot be NULL.

Box 4: 15 minutes.

[ @freq\_subday\_type = ] freq\_subday\_type

Specifies the units for freq\_subday\_interval. freq\_subday\_typeis int, with a default of 0, and can be one of these values.

Here it is 4, which means minutes.

[ @freq\_subday\_interval = ] freq\_subday\_interval

The number of freq\_subday\_type periods to occur between eachexecution of a job. freq\_subday\_intervalis int, with a default of 0.

Note: Interval should be longer than 10 seconds. freq\_subday\_interval is ignored in those cases where freq\_subday\_type is equal to 1.

Here it is 15. References:

<https://docs.microsoft.com/en-us/sql/relational-databases/system-stored-procedures/sp-add-schedule-transact-sql> <https://docs.microsoft.com/en-us/sql/relational-databases/system-stored-procedures/sp-add-log-shipping-primary>

**NEW QUESTION 95**

- (Exam Topic 1)

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet goals. Some question sets might have more than one correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it As a result these questions will not appear in the review screen.

You have a database named DB1 that is 640 GB and is updated frequently.

You enabled log shipping for DB1 and configure backup and restore to occur every 30 minutes. You discover that the disks on the data server are almost full.

You need to reduce the amount of disk space used by the log shipping process.

Solution: You increase the frequency of the transaction log backups to every 10 minutes. Does this meet the goal?

- A. Yes
- B. No

**Answer:** B

**NEW QUESTION 98**

- (Exam Topic 1)

You are planning to deploy log shipping for Microsoft SQL Server and store all backups on a dedicated fileshare.

You need to configure the servers to perform each log shipping step.

Which server instance should you configure to perform each action? To answer, select the appropriate server instances in the dialog box in the answer area.

## Answer Area

Action	Server instance
Complete the backup job.	<div style="border: 1px solid black; padding: 5px;"> <div style="background-color: #f0f0f0; padding: 2px; display: flex; justify-content: space-between; align-items: center;"> <span></span> <span>▼</span> </div> <div style="padding: 2px;">                     Primary server instance                      Secondary server instance                      Monitor server instance                      Backup share file server                 </div> </div>
Copy the backup job.	<div style="border: 1px solid black; padding: 5px;"> <div style="background-color: #f0f0f0; padding: 2px; display: flex; justify-content: space-between; align-items: center;"> <span></span> <span>▼</span> </div> <div style="padding: 2px;">                     Primary server instance                      Secondary server instance                      Monitor server instance                      Backup share file server                 </div> </div>
Restore the backup.	<div style="border: 1px solid black; padding: 5px;"> <div style="background-color: #f0f0f0; padding: 2px; display: flex; justify-content: space-between; align-items: center;"> <span></span> <span>▼</span> </div> <div style="padding: 2px;">                     Primary server instance                      Secondary server instance                      Monitor server instance                      Backup share file server                 </div> </div>

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Note: Before you configure log shipping, you must create a share to make the transaction log backups available to the secondary server. SQL Server Log shipping allows you to automatically send transaction log backups from a primary database on a primary server instance to one or more secondary databases on separate secondary server instances. The transaction log backups are applied to each of the secondary databases individually. An optional third server instance, known as the monitor server, records the history and status of backup and restore operations and, optionally, raises alerts if these operations fail to occur as scheduled.

Box 1: Primary server instance.

The primary server instance runs the backup job to back up the transaction log on the primary database. backup job: A SQL Server Agent job that performs the backup operation, logs history to the local server and the monitor server, and deletes old backup files and history information. When log shipping is enabled, the job category "Log Shipping Backup" is created on the primary server instance.

Box 2: Secondary server instance

Each of the three secondary server instances runs its own copy job to copy the primary log-backup file to its own local destination folder. copy job: A SQL Server Agent job that copies the backup files from the primary server to a configurable destination on the secondary server and logs history on the secondary server and the monitor server. When log shipping is enabled on a database, the job category "Log Shipping Copy" is created on each secondary server in a log shipping configuration.

Box 3: Secondary server instance.

Each secondary server instance runs its own restore job to restore the log backup from the local destination folder onto the local secondary database. restore job: A SQL Server Agent job that restores the copied backup files to the secondary databases. It logs history on the local server and the monitor server, and deletes old files and old history information. When log shipping is enabled on a database, the job category "Log Shipping Restore" is created on the secondary server instance.

References: <https://docs.microsoft.com/en-us/sql/database-engine/log-shipping/about-log-shipping-sql-server>

**NEW QUESTION 103**

- (Exam Topic 1)

You administer a Microsoft SQL Server 2016 server that has SQL Server Integration Services (SSIS) installed. You plan to deploy new SSIS packages to the server.

The SSIS packages use the Project Deployment Model together with parameters and Integration Services environment variables.

You need to configure the SQL Server environment to support these packages. What should you do?

- A. Create SSIS configuration files for the packages.
- B. Create an Integration Services catalog.
- C. Install Data Quality Services.
- D. Install Master Data services.

**Answer:** B

**Explanation:**

Use can use Project Deployment Model for a project, containing packages and parameters, which is deployed to the SSISDB catalog on an instance of SQL

Server.

References:

<https://docs.microsoft.com/en-us/sql/integration-services/packages/deploy-integration-services-ssis-projects-and>

#### NEW QUESTION 104

- (Exam Topic 1)

You administer a SQL Server 2016 database instance.

You need to configure the SQL Server Database Engine service on a failover cluster. Which user account should you use?

- A. A domain user
- B. The BUILTIN\SYSTEM account
- C. A local user with Run as Service permissions
- D. The SQLBrowser account

**Answer:** A

#### Explanation:

Account of the person who installs the cluster: The person who installs the cluster must use an account with the following characteristics:

The account must be a domain account. It does not have to be a domain administrator account. It can be a domain user account if it meets the other requirements in this list.

Etc. References:

<https://docs.microsoft.com/en-us/previous-versions/windows/it-pro/windows-server-2008-R2-and-2008/cc73100>

#### NEW QUESTION 105

- (Exam Topic 1)

You administer a Microsoft SQL Server 2016 instance that has several SQL Server Agent jobs configured. SQL Server Agent jobs fail, the error messages returned by the job steps are truncated.

The following error message is an example of the truncated error message:

"Executed as user CONTOSO\ServiceAccount. ...0.4035.00 for 64-bit Copyright (C) Microsoft Corp 1984-2011. All rights reserved. Started 63513 PM Error 2012-06-23 183536.87 Code 0XC001000E Source UserImport Description Code 0x00000000 Source Log Import Activity Descript... The package execution fa... The step failed."

You need to ensure that all the details of the job step failures are retained for SQL Server Agent jobs. What should you do?

- A. Expand agent logging to include information from all events.
- B. Disable the Limit size of job history log feature.
- C. Configure event forwarding.
- D. Configure output files.

**Answer:** D

#### Explanation:

When you have a multiple-step job, then log all steps against a single file. Check the 'Append output to existing file' checkbox for all steps in the job that execute after the initial step. This results in a log file with all of the job steps from the last job execution. Each time the first step executes (each time the job is kicked-off) the file will be overwritten, so we have a record of the last set of output.

References: <https://www.mssqltips.com/sqlservertip/1411/verbose-sql-server-agent-logging/>

#### NEW QUESTION 108

- (Exam Topic 1)

Note: This question is part of a series of questions that use the same or similar answer choices. An answer choice may be correct for more than one question in the series. Each question is independent of the other questions in this series. Information and details provided in a question apply only to that question.

You are the database administrator for a company that hosts Microsoft SQL Server. You manage both on-premises and Microsoft Azure SQL Database environments.

One instance hosts a user database named HRDB. The database contains sensitive human resources data. You need to grant an auditor permission to view the SQL Server audit logs while following the principle of least privilege.

Which permission should you grant?

- A. DDLAdmin
- B. db\_datawriter
- C. dbcreator
- D. dbo
- E. View Database State
- F. View Server State
- G. View Definition
- H. sysadmin

**Answer:** F

#### Explanation:

Unless otherwise specified, viewing catalog views requires a principal to have one of the following:

Membership in the sysadmin fixed server role.

The CONTROL SERVER permission.

The VIEW SERVER STATE permission.

The ALTER ANY AUDIT permission.

The VIEW AUDIT STATE permission (gives only the principal access to the sys.server\_audits catalog view).

References: [https://technet.microsoft.com/en-us/library/cc280386\(v=sql.110\).aspx](https://technet.microsoft.com/en-us/library/cc280386(v=sql.110).aspx)

#### NEW QUESTION 111

- (Exam Topic 1)

You administer two instances of Microsoft SQL Server 2016.

You deploy an application that uses a database on the named instance.

The application is unable to connect to the database on the named instance. You need to ensure that the application can connect to the named instance. What should you do?

- A. Use the Data Quality Client to configure the application.
- B. Start the SQL Server Browser Service.
- C. Use the Master Data Services Configuration Manager to configure the application.
- D. Start the SQL Server Integration Services Service.

**Answer: B**

**Explanation:**

The SQL ServerBrowser program runs as a Windows service. SQL Server Browser listens for incoming requests for Microsoft SQL Server resources and provides information about SQL Server instances installed on the computer. SQL Server Browser contributes to the following actions:

Browsing a list of available servers  
Connecting to the correct server instance  
Etc.

References: <https://docs.microsoft.com/en-us/sql/tools/configuration-manager/sql-server-browser-service>

**NEW QUESTION 113**

- (Exam Topic 1)

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet goals.

Some question sets might have more than one correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it As a result these questions will not appear in the review screen.

Your company has several Microsoft SQL Server instances, Each instance hosts many databases. You observe I/O corruption on some of the instances

You need to perform the following actions:

- Identify databases where the PAGE VERIFY option is not set
- Configure full page protection for the identified databases. Solution: You run the following Transact-SQL statement:

```
SELECT NAME, page_verify_option_desc
FROM master.sys.databases
WHERE page_verify_option_desc = 'NONE'
GO
```

For each database that you identify, you run the following Transact-SQL statement:

```
ALTER DATABASE <database_name>
SET PAGE_VERIFY TORN_PAGE_DETECTION
```

Does the solution meet the goal?

- A. Yes
- B. No

**Answer: B**

**NEW QUESTION 116**

- (Exam Topic 1)

You administer a Microsoft SQL Server 2016 server that hosts a transactional database and a reporting database. The transactional database is updated through a web application and is operational throughout the day.

The reporting database is only updated from the transactional database.

The recovery model and backup schedule are configured as shown in the following table:

Database	Description
Transactional database	<p>Recovery model:</p> <ul style="list-style-type: none"> <li>• Full</li> </ul> <p>Backup schedule:</p> <ul style="list-style-type: none"> <li>• Full database backup: midnight, daily</li> <li>• Differential database backup: on the hour, every two hours starting at 02:00 hours except at 00:00 hours</li> <li>• Log backup: every half hour, except at the times of full and differential backups</li> </ul>
Reporting database	<p>Recovery model:</p> <ul style="list-style-type: none"> <li>• Simple</li> </ul> <p>Backup schedule:</p> <ul style="list-style-type: none"> <li>• Full database backup: 01:00 hours daily</li> <li>• Differential database backup: 13:00 hours daily</li> </ul> <p>Data updates:</p> <ul style="list-style-type: none"> <li>• Changes in data are updated from the transactional database to the reporting database at 00:30 hours and at 12:30 hours</li> <li>• The update takes 15 minutes</li> </ul>

At 14:00 hours, you discover that pages 71, 520, and 713 on one of the database files are corrupted on the reporting database. You need to ensure that the databases are restored. You also need to ensure that data loss is minimal. What should you do?

- A. Perform a partial restore.
- B. Restore the latest full backup, and restore the latest differential backup.
- C. Then, restore each log backup taken before the time of failure from the most recent differential backup.
- D. Restore the latest full backup.
- E. Restore the latest full backup, and restore the latest differential backup.
- F. Then, restore the latest log backup.
- G. Perform a page restore.
- H. Restore the latest full backup.
- I. Then, restore each differential backup taken before the time of failure from the most recent full backup.
- J. Perform a point-in-time restore.
- K. Restore the latest full backup.
- L. Then, restore the latest differential backup.

**Answer:** H

**Explanation:**

At restore time, before you restore a differential backup, you must restore its base. Then, restore only the most recent differential backup to bring the database forward to the time when that differential backup was created. Typically, you would restore the most recent full backup followed by the most recent differential backup that is based on that full backup.

References: [https://technet.microsoft.com/en-us/library/ms345448\(v=sql.105\).aspx](https://technet.microsoft.com/en-us/library/ms345448(v=sql.105).aspx)

**NEW QUESTION 118**

- (Exam Topic 1)

You administer a Microsoft SQL Server 2016 database.

The database is currently configured to log ship to a secondary server.

You are preparing to cut over to the secondary server by stopping log-shipping and bringing the secondary database online.

You want to perform a tail-log backup. You need to leave the primary database in a restoring state. Which option of the BACKUP LOG command should you use?

- A. NO\_TRUNCATE
- B. NORECOVERY
- C. STANDBY
- D. FORMAT

**Answer:** B

**NEW QUESTION 119**

- (Exam Topic 1)

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet goals. Some question sets might have more than one correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You have a database named DB1 that is 640 GB and is updated frequently.

You enabled log shipping for DB1 and configured backup and restore to occur every 30 minutes.

You discover that the disks on the data server are almost full.

You need to reduce the amount of disk space used by the log shipping process. Solution: You configure log shipping to backup and restore by using shared folder.

Does this meet the goal?

A. Yes

B. No

**Answer: B**

**NEW QUESTION 120**

- (Exam Topic 1)

Note: This question is part of a series of questions that use the same or similar answer choices. An answer choice may be correct for more than one question in the series. Each question is independent of the other questions in this series. Information and details provided in a question apply only to that question.

You are the database administrator for a company that hosts Microsoft SQL Server. You manage both on-premises and Microsoft Azure SQL Database environments.

You plan to delegate encryption operations to a user.

You need to grant the user permission to implement cell-level encryption while following the principle of least privilege.

Which permission should you grant?

A. DDLAdmin

B. db\_datawriter

C. dbcreator

D. dbo

E. View Database State

F. View ServerState

G. View Definition

H. sysadmin

**Answer: G**

**Explanation:**

The following permissions are necessary to perform column-level encryption, or cell-level encryption.

CONTROL permission on the database.

CREATE CERTIFICATE permission on the database. Only Windows logins, SQL Server logins, and application roles can own certificates. Groups and roles cannot own certificates.

ALTER permission on the table.

Some permission on the key and must not have been denied VIEW DEFINITION permission. References:

<https://docs.microsoft.com/en-us/sql/relational-databases/security/encryption/encrypt-a-column-of-data>

**NEW QUESTION 124**

- (Exam Topic 1)

You have a Microsoft SQL Server instance that hosts a database named DB1 that contains 800 gigabyte (GB) of data. The database is used 24 hours each day.

You implement indexes and set the value of the Auto Update Statistics option set to True.

Users report that queries take a long time to complete.

You need to identify statistics that have not been updated for a week for tables where more than 1,000 rows changed.

How should you complete the Transact-SQL statement? To answer, configure the appropriate Transact-SQL segments in the answer area.

# Answer Area

```

SELECT OBJECT_NAME(id), name,  (id, indid), 
FROM sys.sysindexes
WHERE  (id, indid) <= DATEADD(DAY, -7, GETDATE())
AND  > 1000
AND id IN (SELECT object_id FROM sys.tables)
    
```

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Box 1: stats\_date See example below. Box 2: rowmodctr See examplebelow. Box 3: stats\_date  
You need to identify statistics that have not been updated for a week. Box 4: rowmodctr  
You need to identify that more than 1,000 rows changed.

Rowmodctr counts the total number of inserted, deleted, or updated rows since the last time statistics were updated for the table.

Example: We will query every statistics object which was not updated in the last day and has rows modified since the last update. We will use the rowmodctr field of sys.sysindexes because it shows how many rows were inserted, updated or deleted since the last update occurred. Please note that it is not always 100% accurate in SQL Server 2005 and later, but it can be used to check if any rows were modified.

--Get the list of outdated statistics

```

SELECT OBJECT_NAME(id),name,STATS_DATE(id, indid),rowmodctr FROM sys.sysindexes
WHERE STATS_DATE (id, indid)<=DATEADD(DAY,-1,GETDATE())
AND rowmodctr>0
    
```

```

AND id IN (SELECT object_id FROM sys.tables) GO
    
```

After collecting this information, we can decide which statistics require an update.

References:

<https://docs.microsoft.com/en-us/sql/relational-databases/system-compatibility-views/sys-sysindexes-transact-sq>

<https://www.mssqltips.com/sqlservertip/2628/how-to-find-outdated-statistics-in-sql-server-2008/>

**NEW QUESTION 129**

- (Exam Topic 1)

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

A company has an on-premises Microsoft SQL Server environment and Microsoft Azure SQL Database instances. The environment hosts several customer databases.

One customer reports that their database is not responding as quickly as the service level agreements dictate. You observe that the database is fragmented.

You need to optimize query performance. Solution: You reorganize all indexes. Does the solution meet the goal?

- A. Yes
- B. No

**Answer:** A

**Explanation:**

You can remedy index fragmentation by either reorganizing an index or by rebuilding an index. References: [https://msdn.microsoft.com/en-us/library/ms189858\(v=sql.105\).aspx](https://msdn.microsoft.com/en-us/library/ms189858(v=sql.105).aspx)

**NEW QUESTION 134**

- (Exam Topic 1)

A Microsoft SQL Server database named DB1 has two filegroups named FG1 and FG2. You implement a backup strategy that creates backups for the filegroups. DB1 experiences a failure. You must restore FG1 and then FG2.

You need to ensure that the database remains in the RECOVERING state until the restoration of FG2 completes. After the restoration of FG2 completes, the database must be online.

What should you specify when you run the recovery command?

- A. the WITH NORECOVERY clause for FG1 and the WITH RECOVERY clause for FG2
- B. the WITH RECOVERY clause for FG1 and the WITH RECOVERY clause for FG2
- C. the WITH RECOVERY clause for both FG1 and FG2
- D. the WITH NORECOVERY clause for both FG1 and FG2

**Answer:** A

**NEW QUESTION 136**

- (Exam Topic 1)

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet goals. Some question sets might have more than one correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You have a database named DB1 that is 640 GB and is updated frequently.

You enabled log shipping for DB1 and configure backup and restore to occur every 30 minutes. You discover that the disks on the data server are almost full.

You need to reduce the amount of disk space used by the log shipping process. Solution: You enable compression for the transaction log backups:

Does this meet the goal?

- A. Yes
- B. No

**Answer:** A

**NEW QUESTION 140**

- (Exam Topic 1)

You administer several Microsoft SQL Server 2016 database servers.

Merge replication has been configured for an application that is distributed across offices throughout a wide area network (WAN). Many of the tables involved in replication use the XML and varchar (max) data types.

Occasionally, merge replication fails due to timeout errors. You need to reduce the occurrence of these timeout errors. What should you do?

- A. Set the Merge agent on the problem subscribers to use the slow link agent profile.
- B. Create a snapshot publication, and reconfigure the problem subscribers to use the snapshot publication.
- C. Change the Merge agent on the problem subscribers to run continuously.
- D. Set the Remote Connection Timeout on the Publisher to 0.

**Answer:** A

**Explanation:**

You might have different profiles for different instances of an agent. For example, a Merge Agent that connects to the Publisher and Distributor over a dialup connection could use a set of parameters that are better suited to the slower communications link by using the slow link profile.

Note: When replication is configured, a set of agent profiles is installed on the Distributor. An agent profile contains a set of parameters that are used each time an agent runs: each agent logs in to the Distributor during its startup process and queries for the parameters in its profile.

References:

<https://docs.microsoft.com/en-us/sql/relational-databases/replication/agents/replication-agent-profiles>

**NEW QUESTION 144**

- (Exam Topic 2)

Overview

Application Overview

Contoso, Ltd., is the developer of an enterprise resource planning (ERP) application.

Contoso is designing a new version of the ERP application. The previous version of the ERP application used SQL Server 2008 R2.

The new version will use SQL Server 2014.

The ERP application relies on an import process to load supplier data. The import process updates thousands of rows simultaneously, requires exclusive access to the database, and runs daily.

You receive several support calls reporting unexpected behavior in the ERP application. After analyzing the calls, you conclude that users made changes directly to the tables in the database.

Tables

The current database schema contains a table named OrderDetails.

The OrderDetails table contains information about the items sold for each purchase order. OrderDetails stores the product ID, quantities, and discounts applied to each product in a purchase order.

The product price is stored in a table named Products. The Products table was defined by using the SQL\_Latin1\_General\_CP1\_CI\_AS collation.

A column named ProductName was created by using the varchar data type. The database contains a table named Orders.

Orders contains all of the purchase orders from the last 12 months. Purchase orders that are older than 12 months are stored in a table named OrdersOld.

The previous version of the ERP application relied on table-level security. Stored Procedures

The current version of the database contains stored procedures that change two tables. The following shows the relevant portions of the two stored procedures:

```
CREATE PROC Sales.Proc1
AS
BEGIN TRAN
UPDATE Sales.Table1 ...
UPDATE Sales.Table2 ...
COMMIT TRAN
GO

CREATE PROC Sales.Proc2
AS
BEGIN TRAN
UPDATE Sales.Table2 ...
UPDATE Sales.Table1 ...
COMMIT TRAN
GO
```

**Customer Problems Installation Issues**

The current version of the ERP application requires that several SQL Server logins be set up to function correctly. Most customers set up the ERP application in multiple locations and must create logins multiple times.

**Index Fragmentation Issues**

Customers discover that clustered indexes often are fragmented. To resolve this issue, the customers defragment the indexes more frequently. All of the tables affected by fragmentation have the following columns that are used as the clustered index key:

Column	Data type
id	uniquedentifier
lastModified	datetime
modifiedBy	Varchar(200)

**Backup Issues**

Customers who have large amounts of historical purchase order data report that backup time is unacceptable. Search Issues

Users report that when they search product names, the search results exclude product names that contain accents, unless the search string includes the accent.

**Missing Data Issues**

Customers report that when they make a price change in the Products table, they cannot retrieve the price that the item was sold for in previous orders.

**Query Performance Issues**

Customers report that query performance degrades very quickly. Additionally, the customers report that users cannot run queries when SQL Server runs maintenance tasks. Import Issues During the monthly import process, database administrators receive many supports call from users who report that they cannot access the supplier data. The database administrators want to reduce the amount of time required to import the data.

**Design Requirements**

**File Storage Requirements**

The ERP database stores scanned documents that are larger than 2 MB. These files must only be accessed through the ERP application. File access must have the best possible read and write performance.

**Data Recovery Requirements**

If the import process fails, the database must be returned to its prior state immediately. Security Requirements

You must provide users with the ability to execute functions within the ERP application, without having direct access to the underlying tables.

**Concurrency Requirements**

You must reduce the likelihood of deadlocks occurring when Sales.Prod and Sales.Proc2 execute. You need to recommend a solution that resolves the missing data issue.

The solution must minimize the amount of development effort. What should you recommend?

- A. Denormalize the Products table.
- B. Denormalize the OrderDetails table.
- C. Normalize the OrderDetails table.
- D. Normalize the Products table.

**Answer: D**

**Explanation:**

- Scenario:

- Missing Data Issues

Customers report that when they make a price change in the Products table, they cannot retrieve the price that the item was sold for in previous orders.

- The current database schema contains a table named OrderDetails. The OrderDetails table contains information about the items sold for each purchase order. OrderDetails stores the product ID, quantities, and discounts applied to each product in a purchase order.

The product price is stored in a table named Products.

**NEW QUESTION 147**

- (Exam Topic 2)

You are designing a SQL Server database for an order fulfillment system. You create a table named Sales.Orders by using the following script:

```
CREATE TABLE Sales.Orders
(
    OrderID int IDENTITY (1,1) NOT NULL PRIMARY KEY,
    OrderDate date NOT NULL,
    CustomerID int NOT NULL
);
```

Each order is tracked by using one of the following statuses:

- Fulfilled
- Shipped
- Ordered
- Received

You need to design the database to ensure that you can retrieve the status of an order on a given date. The solution must ensure that new statuses can be added in the future.

What should you do? More than one answer choice may achieve the goal. Select the BEST answer.

- A. To the Sales.Orders table, add a column named Status that will store the order status.
- B. Update the Status column as the order status changes.
- C. Create a new table named Sales.OrderStatus that contains three columns named OrderID, StatusDate, and Status.
- D. Insert new rows into the table as the order status changes.
- E. Implement change data capture on the Sales.Orders table.
- F. To the Sales.Orders table, add three columns named FulfilledDate, ShippedDate, and ReceivedDate. Update the value of each column from null to the appropriate date as the order status changes.

**Answer:** A

**NEW QUESTION 149**

- (Exam Topic 2)

Overview

General Overview

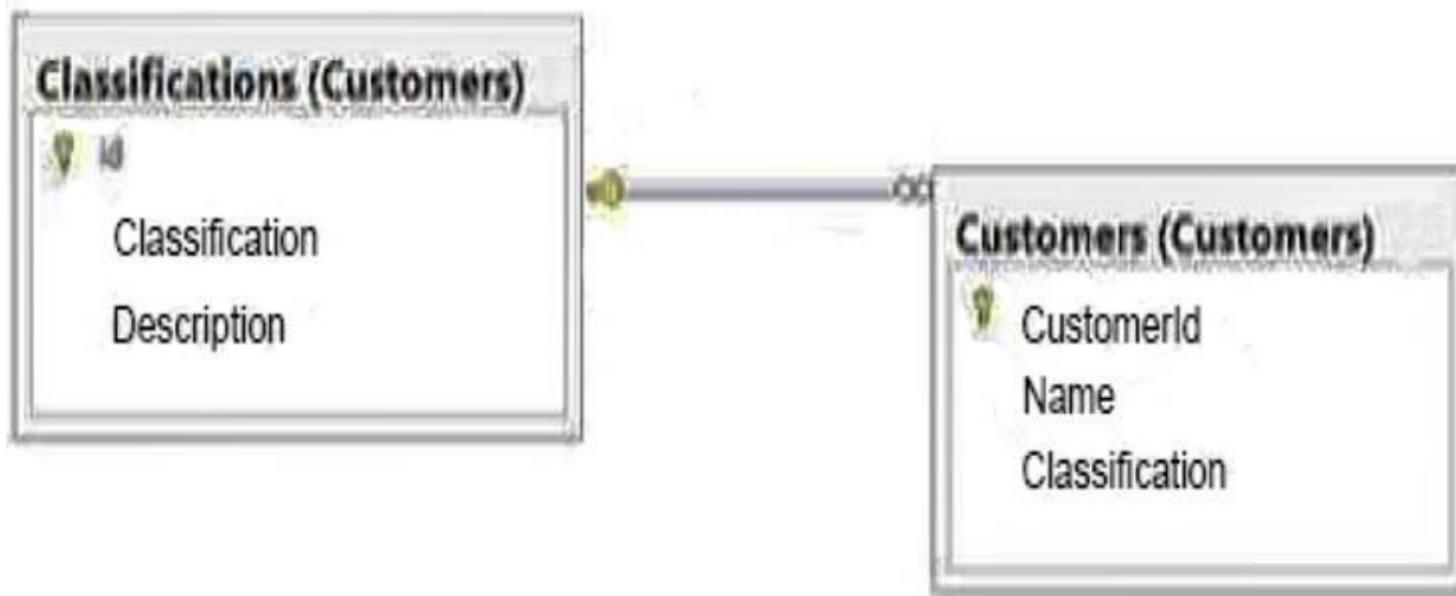
ADatum Corporation has offices in Miami and Montreal.

The network contains a single Active Directory forest named adatum.com. The offices connect to each other by using a WAN link that has 5-ms latency. A. Datum standardizes its database platform by using SQL Server 2014 Enterprise edition.

Databases

Each office contains databases named Sales, Inventory, Customers, Products, Personnel, and Dev. Servers and databases are managed by a team of database administrators. Currently, all of the database administrators have the same level of permissions on all of the servers and all of the databases.

The Customers database contains two tables named Customers and Classifications. The following graphic shows the relevant portions of the tables:



The following table shows the current data in the Classifications table:

ID	Classification	Description
1	Platinum	Yearly sales over 1,000,000
2	Gold	Yearly sales over 500,000
3	Silver	Yearly sales over 100,000

The Inventory database is updated frequently. The database is often used for reporting.

A full backup of the database currently takes three hours to complete. Stored Procedures

A stored procedure named USP\_1 generates millions of rows of data for multiple reports. USP\_1 combines data from five different tables from the Sales and Customers databases in a table named Table1.

After Table1 is created, the reporting process reads data from Table1 sequentially several times. After the process is complete, Table1 is deleted.

A stored procedure named USP\_2 is used to generate a product list. The product list contains the names of products grouped by category.

USP\_2 takes several minutes to run due to locks on the tables the procedure accesses. The locks are caused by USP\_1 and USP\_3.

A stored procedure named USP\_3 is used to update prices. USP\_3 is composed of several UPDATE statements called in sequence from within a transaction.

Currently, if one of the UPDATE statements fails, the stored procedure fails. A stored procedure named USP\_4 calls stored procedures in the Sales, Customers, and Inventory databases.

The nested stored procedures read tables from the Sales, Customers, and Inventory databases. USP\_4 uses an EXECUTE AS clause.

All nested stored procedures handle errors by using structured exception handling. A stored procedure named USP\_5 calls several stored procedures in the same database. Security checks are performed each time USP\_5 calls a stored procedure.

You suspect that the security checks are slowing down the performance of USP\_5. All stored procedures accessed by user applications call nested stored procedures.

The nested stored procedures are never called directly. Design Requirements

Data Recovery

You must be able to recover data from the Inventory database if a storage failure occurs. You have a Recovery Time Objective (RTO) of 5 minutes.

You must be able to recover data from the Dev database if data is lost accidentally. You have a Recovery Point Objective (RPO) of one day.

Classification Changes

You plan to change the way customers are classified. The new classifications will have four levels based on the number of orders. Classifications may be removed or added in the future. Management requests that historical data be maintained for the previous classifications. Security A group of junior database administrators must be able to manage security for the Sales database. The junior database administrators will not have any other administrative rights. A. Datum wants to track which users run each stored procedure.

Storage

ADatum has limited storage. Whenever possible, all storage space should be minimized for all databases and all backups. Error Handling

There is currently no error handling code in any stored procedure.

You plan to log errors in called stored procedures and nested stored procedures. Nested stored procedures are never called directly.

You need to recommend a disaster recovery solution for the Dev database. What should you include in the recommendation?

- A. The simple recovery model and full backups
- B. The full recovery model, full backups, and transaction log backups
- C. The full recovery model, full backups, and differential backups
- D. The bulk-logged recovery model and full backups

**Answer:** A

**Explanation:**

Scenario:

You must be able to recover data from the Dev database if data is lost accidentally. You have a Recovery Point Objective (RPO) of one day.

- The simple recovery model provides the simplest form of backup and restore. This recovery model supports both database backups and file backups, but does not support log backups. Transaction log data is backed up only with the associated user data.

The absence of log backups simplifies managing backup and restore. However, a database can be restored only to the end of the most recent backup.

#### NEW QUESTION 150

- (Exam Topic 2)

Overview

You are a database administrator for a company named Litware, Inc.

Litware is a book publishing house. Litware has a main office and a branch office.

You are designing the database infrastructure to support a new web-based application that is being developed. The web application will be accessed at [www.litwareinc.com](http://www.litwareinc.com). Both internal employees and external partners will use the application.

You have an existing desktop application that uses a SQL Server 2008 database named App1\_DB. App1\_DB will remain in production.

Requirements Planned Changes

You plan to deploy a SQL Server 2014 instance that will contain two databases named Database1 and Database2.

All database files will be stored in a highly available SAN. Database1 will contain two tables named Orders and OrderDetails.

Database1 will also contain a stored procedure named usp\_UpdateOrderDetails.

The stored procedure is used to update order information. The stored procedure queries the Orders table twice each time the procedure executes.

The rows returned from the first query must be returned on the second query unchanged along with any rows added to the table between the two read operations.

Database1 will contain several queries that access data in the Database2 tables. Database2 will contain a table named Inventory.

Inventory will contain over 100 GB of data.

The Inventory table will have two indexes: a clustered index on the primary key and a nonclustered index. The column that is used as the primary key will use the identity property.

Database2 will contain a stored procedure named usp\_UpdateInventory. usp\_UpdateInventory will manipulate a table that contains a self-join that has an unlimited number of hierarchies. All data in Database2 is recreated each day and does not change until the next data creation process. Data from Database2 will be accessed periodically by an external application named Application1. The data from Database2 will be sent to a database named Appl\_Dbl as soon as changes occur to the data in Database2. Litware plans to use offsite storage for all SQL Server 2014 backups.

Business Requirements

You have the following requirements:

Costs for new licenses must be minimized.

Private information that is accessed by Application must be stored in a secure format.

Development effort must be minimized whenever possible.

The storage requirements for databases must be minimized.

System administrators must be able to run real-time reports on disk usage.

The databases must be available if the SQL Server service fails.

Database administrators must receive a detailed report that contains allocation errors and data corruption.

Application developers must be denied direct access to the database tables. Applications must be denied direct access to the tables.

You must encrypt the backup files to meet regulatory compliance requirements.

The encryption strategy must minimize changes to the databases and to the applications.

You need to recommend a solution for the deployment of SQL Server 2014. The solution must meet the business requirements. What should you include in the recommendation?

- A. Create a new instance of SQL Server 2014 on the server that hosts the SQL Server 2008 instance.
- B. Upgrade the existing SQL Server 2008 instance to SQL Server 2014.
- C. Deploy two servers that have SQL Server 2014 installed and implement Failover Clustering.
- D. Deploy two servers that have SQL Server 2014 installed and implement database mirroring.

**Answer:** C

**Explanation:**

Scenario: The databases must be available if the SQL Server service fails.

**NEW QUESTION 151**

- (Exam Topic 2)

You are designing a database named DB1.

Changes will be deployed to DB1 every Wednesday night.

You need to recommend a strategy to deploy the changes to DB1. The strategy must meet the following requirements:

The strategy must not disrupt backup operations.

DB1 must be unavailable to users while the changes are deployed.

You must be able to undo quickly the entire operation.

What should you recommend? More than one answer choice may achieve the goal. Select the BEST answer.

A. Perform a copy-only database backup before the changes are deployed.If the deployment fails, restore the database to another server and recover the original.Objects from the restored database.

B. Create a database snapshot.If the deployment fails, recover the objects from the database snapshot.

C. Create a database snapshot.If the deployment fails, revert the database to the database snapshot.

D. Perform a full database backup before the changes are deployed.If the deployment fails, restore the database to another server and recover the original objects from the restored database.

**Answer: C**

**NEW QUESTION 152**

- (Exam Topic 2)

You have a SQL Azure database named Database1.

You need to design the schema for a table named table1. Table1 will have less than one million rows.

Table1 will contain the following information for each row:

Column	Description
ID	An incremental numeric value used to identify the row
Name	A string in English
Code	An alphanumeric code that has five characters
ModifiedDate	The date of the last modification

The solution must minimize the amount of space used to store each row.

Which data types should you recommend for each column? To answer, drag the appropriate data type to the correct column in the answer area.

**Data Types**

- int
- bigint
- varchar
- nvarchar
- char
- smalldatetime
- date

**Answer Area**

ID	Data type
Name	Data type
Code	Data type
ModifiedDate	Data type

- A. Mastered
- B. Not Mastered

**Answer: A**

**Explanation:**

References:

<http://msdn.microsoft.com/en-US/library/ms187752.aspx>

**NEW QUESTION 156**

- (Exam Topic 2)

Overview

General Overview

ADatum Corporation has offices in Miami and Montreal.

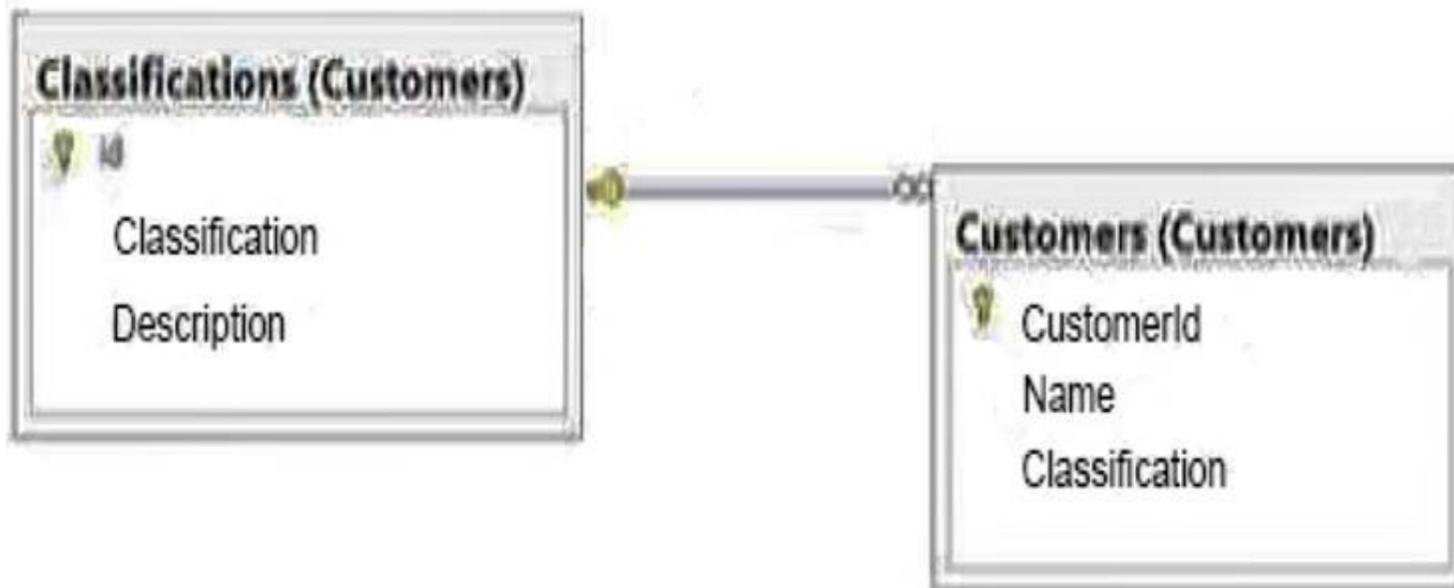
The network contains a single Active Directory forest named adatum.com. The offices connect to each other by using a WAN link that has 5-ms latency. A. Datum standardizes its database platform by using SQL Server 2014 Enterprise edition.

**Databases**

Each office contains databases named Sales, Inventory, Customers, Products, Personnel, and Dev. Servers and databases are managed by a team of database administrators. Currently, all of the database

administrators have the same level of permissions on all of the servers and all of the databases.

The Customers database contains two tables named Customers and Classifications. The following graphic shows the relevant portions of the tables:



The following table shows the current data in the Classifications table:

ID	Classification	Description
1	Platinum	Yearly sales over 1,000,000
2	Gold	Yearly sales over 500,000
3	Silver	Yearly sales over 100,000

The Inventory database is updated frequently. The database is often used for reporting.

A full backup of the database currently takes three hours to complete. Stored Procedures

A stored procedure named USP\_1 generates millions of rows of data for multiple reports. USP\_1 combines data from five different tables from the Sales and Customers databases in a table named Table1.

After Table1 is created, the reporting process reads data from Table1 sequentially several times. After the process is complete, Table1 is deleted.

A stored procedure named USP\_2 is used to generate a product list. The product list contains the names of products grouped by category.

USP\_2 takes several minutes to run due to locks on the tables the procedure accesses. The locks are caused by USP\_1 and USP\_3.

A stored procedure named USP\_3 is used to update prices. USP\_3 is composed of several UPDATE statements called in sequence from within a transaction.

Currently, if one of the UPDATE statements fails, the stored procedure fails. A stored procedure named USP\_4 calls stored procedures in the Sales, Customers, and Inventory databases.

The nested stored procedures read tables from the Sales, Customers, and Inventory databases. USP\_4 uses an EXECUTE AS clause.

All nested stored procedures handle errors by using structured exception handling. A stored procedure named USP\_5 calls several stored procedures in the same database. Security checks are performed each time USP\_5 calls a stored procedure.

You suspect that the security checks are slowing down the performance of USP\_5. All stored procedures accessed by user applications call nested stored procedures.

The nested stored procedures are never called directly. Design Requirements

**Data Recovery**

You must be able to recover data from the Inventory database if a storage failure occurs. You have a Recovery Time Objective (RTO) of 5 minutes.

You must be able to recover data from the Dev database if data is lost accidentally. You have a Recovery Point Objective (RPO) of one day.

**Classification Changes**

You plan to change the way customers are classified. The new classifications will have four levels based on the number of orders. Classifications may be removed or added in the future. Management requests that historical data be maintained for the previous classifications. Security A group of junior database administrators must be able to manage security for the Sales database. The junior database administrators will not have any other administrative rights. A. Datum wants to track which users run each stored procedure.

**Storage**

ADatum has limited storage. Whenever possible, all storage space should be minimized for all databases and all backups.

**Error Handling**

There is currently no error handling code in any stored procedure.

You plan to log errors in called stored procedures and nested stored procedures. Nested stored procedures are never called directly.

You need to recommend a change to USP\_3 to ensure that the procedure completes only if all of the UPDATE statements complete. Which change should you recommend?

- A. Set the XACT\_ABORT option to off
- B. Set the XACT\_ABORT option to on.
- C. Set the IMPLICIT\_TRANSACTIONS option to off.
- D. Set the IMPLICIT\_TRANSACTIONS option to on.

**Answer: B**

**Explanation:**

Scenario:

A stored procedure named USP\_3 is used to update prices. USP\_3 is composed of several UPDATE statements called in sequence from within a transaction. Currently, if one of the UPDATE statements fails, the stored procedure continues to execute.

- When SET XACT\_ABORT is ON, if a Transact-SQL statement raises a run-time error, the entire transaction is terminated and rolled back.

**NEW QUESTION 161**

- (Exam Topic 2)

You deploy a database by using SQL Server 2014. The database contains a table named Table1.

You need to recommend a solution to track all of the deletions executed on Table1. The solution must minimize the amount of custom code required.

What should you recommend?

- A. Change data capture
- B. Statistics
- C. A trigger
- D. Master Data Services

**Answer:** A

**Explanation:**

Change data capture is designed to capture insert, update, and delete activity applied to SQL Server tables, and to make the details of the changes available in an easily consumed relational format. The change tables used by change data capture contain columns that mirror the column structure of a tracked source table, along with the metadata needed to understand the changes that have occurred.

**NEW QUESTION 165**

- (Exam Topic 2)

You administer a Microsoft SQL Server 2016 database named Contoso on a server named Server01. You need to prevent users from disabling server audits in Server01.

What should you create?

- A. an Alert
- B. a Resource Pool
- C. an Extended Event session
- D. a Policy
- E. a Database Audit Specification
- F. a SQL Profiler Trace
- G. a Server Audit Specification

**Answer:** D

**NEW QUESTION 167**

- (Exam Topic 2)

You are troubleshooting an application that runs a query. The application frequently causes deadlocks. You need to identify which transaction causes the deadlock.

What should you do? More than one answer choice may achieve the goal. Select the BEST answer.

- A. Query the sys.dm\_exec\_requests dynamic management view.
- B. Create a trace in SQL Server Profiler that contains the Deadlock graph event.
- C. Query the sys.dm\_exec\_sessions dynamic management view.
- D. Create an extended events session to capture deadlock information.

**Answer:** D

**Explanation:**

Troubleshooting deadlocks

You have been receiving reports from users indicating that certain applications are returning deadlock errors. To maximize the effectiveness of troubleshooting these problems, you decide to focus on the deadlocks that are hit most frequently. You create an Extended Events session that:

Configures deadlock event tracking for the session.

Specifies a target that aggregates based on an identifier for the deadlock.

You run the Extended Events session, and after additional deadlocks are reported you are able to obtain aggregated deadlock information, along with the complete XML deadlock graph for each source. Using this information, you are able to pin point the most common deadlocks and start working on a solution.

**NEW QUESTION 172**

- (Exam Topic 2)

Overview

You are a database administrator for a company named Litware, Inc.

Litware is a book publishing house. Litware has a main office and a branch office.

You are designing the database infrastructure to support a new web-based application that is being developed. The web application will be accessed at [www.litwareinc.com](http://www.litwareinc.com). Both internal employees and external partners will use the application.

You have an existing desktop application that uses a SQL Server 2008 database named App1\_DB. App1\_DB will remain in production.

Requirements Planned Changes

You plan to deploy a SQL Server 2014 instance that will contain two databases named Database1 and Database2.

All database files will be stored in a highly available SAN. Database1 will contain two tables named Orders and OrderDetails.

Database1 will also contain a stored procedure named usp\_UpdateOrderDetails.

The stored procedure is used to update order information. The stored procedure queries the Orders table twice each time the procedure executes.

The rows returned from the first query must be returned on the second query unchanged along with any rows added to the table between the two read operations.

Database1 will contain several queries that access data in the Database2 tables. Database2 will contain a table named Inventory.

Inventory will contain over 100 GB of data.

The Inventory table will have two indexes: a clustered index on the primary key and a nonclustered index. The column that is used as the primary key will use the identity property.

Database2 will contain a stored procedure named usp\_UpdateInventory. usp\_UpdateInventory will manipulate a table that contains a self-join that has an unlimited number of hierarchies. All data in Database2 is recreated each day and does not change until the next data creation process. Data from Database2 will be accessed periodically by an external application named Application1. The data from Database2 will be sent to a database named App1\_Dbl as soon as changes occur to the data in Database2. Litware plans to use offsite storage for all SQL Server 2014 backups.

Business Requirements

You have the following requirements:

Costs for new licenses must be minimized.  
 Private information that is accessed by Application must be stored in a secure format.  
 Development effort must be minimized whenever possible.  
 The storage requirements for databases must be minimized.  
 System administrators must be able to run real-time reports on disk usage.  
 The databases must be available if the SQL Server service fails.  
 Database administrators must receive a detailed report that contains allocation errors and data corruption.  
 Application developers must be denied direct access to the database tables. Applications must be denied direct access to the tables.  
 You must encrypt the backup files to meet regulatory compliance requirements.  
 The encryption strategy must minimize changes to the databases and to the applications. You need to recommend a disk monitoring solution that meets the business requirements. What should you include in the recommendation?

- A. a SQL Server Agent alert
- B. a dynamic management view
- C. a maintenance plan
- D. an audit

**Answer:** B

**Explanation:**

Dynamic Management Views and Functions (Transact-SQL)

**NEW QUESTION 173**

- (Exam Topic 2)

Overview

General Overview

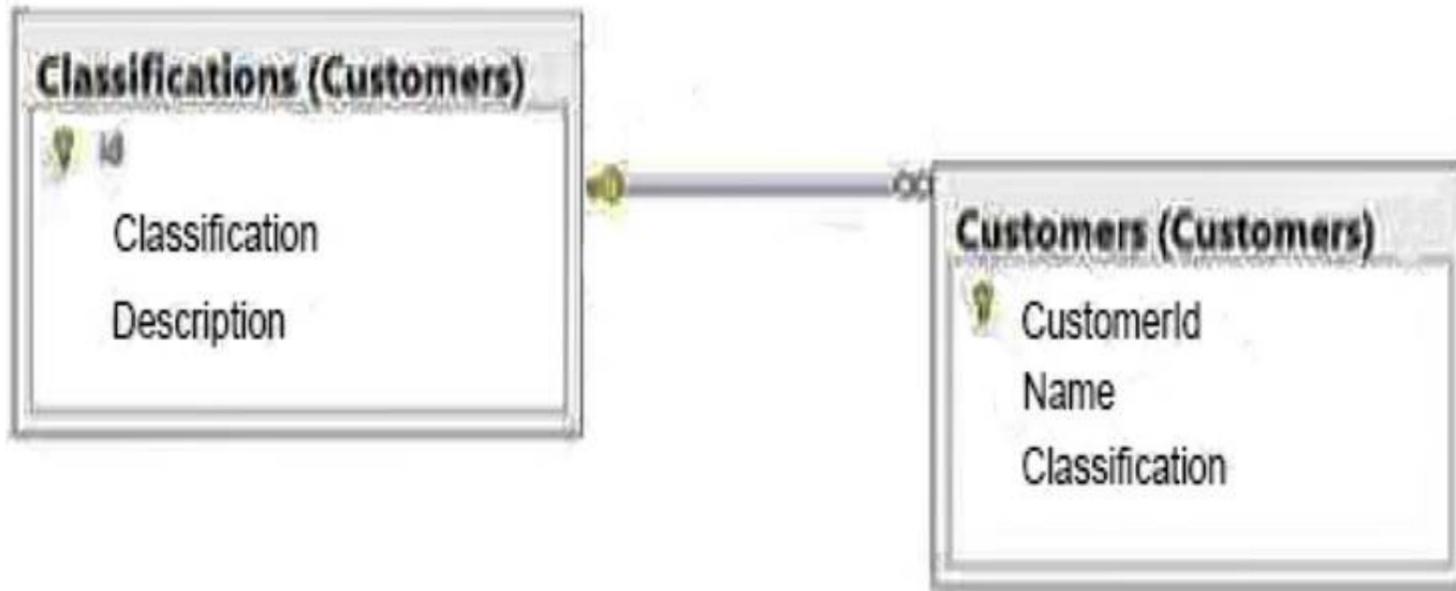
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**Storage**

ADatum has limited storage. Whenever possible, all storage space should be minimized for all databases and all backups. Error Handling

There is currently no error handling code in any stored procedure.

You plan to log errors in called stored procedures and nested stored procedures. Nested stored procedures are never called directly.

You need to recommend a solution to meet the security requirements of the junior database administrators. What should you include in the recommendation?

- A. A server role
- B. A database role
- C. A credential
- D. A shared login

**Answer: C**

**Explanation:**

- Scenario: A group of junior database administrators must be able to view the server state of the SQL Server instance that hosts the Sales database. The junior database administrators will not have any other administrative rights.

- Credentials provide a way to allow SQL Server Authentication users to have an identity outside of SQL Server. Credentials can also be used when a SQL Server Authentication user needs access to a domain resource, such as a file location to store a backup.

**NEW QUESTION 175**

- (Exam Topic 2)

You administer a Microsoft SQL Server 2016 instance.

After a routine shutdown, the drive that contains tempdb fails. You need to be able to start the SQL Server.

What should you do?

- A. Modify tempdb location in startup parameters.
- B. Start SQL Server in minimal configuration mode.
- C. Start SQL Server in single-user mode.
- D. Configure SQL Server to bypass Windows application logging.

**Answer: B**

**NEW QUESTION 178**

- (Exam Topic 2)

You want to reproduce the same SQL Server 2016 installation configuration across five servers. Which of the following files will you generate by using SQL Server Setup to accomplish this goal?

- A. Configuration.xml
- B. Setup.ini
- C. Setup.xml
- D. ConfigurationFile.ini

**Answer: D**

**NEW QUESTION 183**

- (Exam Topic 2)

You have two SQL Server instances named SQLDev and SQLProd that have access to various storage media. You plan to synchronize SQLDev and SQLProd.

You need to recommend a solution that meets the following requirements:

The database schemas must be synchronized from SQLDev to SQLProd.

The database on SQLDev must be deployed to SQLProd by using a package.

The package must support being deployed to SQL Azure.

What should you recommend? More than one answer choice may achieve the goal. Select the BEST answer.

- A. A database snapshot
- B. A data-tier application
- C. Change data capture
- D. SQL Server Integration Services (SSIS)

**Answer: B**

**Explanation:**

\*SIS supports connections to SQL Database by using the ADO.NET provider. OLEDB is not supported at this time. You can build the SSIS package connecting to SQL Database and create the data flow tasks the same way as you would against a typical on premise SQL Server.

<http://technet.microsoft.com/en-us/library/ee210546.aspx>

**NEW QUESTION 186**

- (Exam Topic 2)

You are creating a database that will store usernames and credit card numbers for an application. You need to recommend a solution to store and reuse the credit card numbers in the database.

What should you recommend? More than one answer choice may achieve the goal. Select the BEST answer.

- A. Data encryption
- B. Transparent Data Encryption (TDE)
- C. Encrypting File System (EFS)

D. Data hashing

**Answer:** A

**Explanation:**

If we are going to encrypt credit card number for storage, then we should have Data Encryption Key(DEK) for encrypting the credit card number.

**NEW QUESTION 187**

- (Exam Topic 2)

Overview

Application Overview

Contoso, Ltd., is the developer of an enterprise resource planning (ERP) application.

Contoso is designing a new version of the ERP application. The previous version of the ERP application used SQL Server 2008 R2.

The new version will use SQL Server 2014.

The ERP application relies on an import process to load supplier data. The import process updates thousands of rows simultaneously, requires exclusive access to the database, and runs daily.

You receive several support calls reporting unexpected behavior in the ERP application. After analyzing the calls, you conclude that users made changes directly to the tables in the database.

Tables

The current database schema contains a table named OrderDetails.

The OrderDetails table contains information about the items sold for each purchase order. OrderDetails stores the product ID, quantities, and discounts applied to each product in a purchase order.

The product price is stored in a table named Products. The Products table was defined by using the SQL\_Latin1\_General\_CP1\_CI\_AS collation.

A column named ProductName was created by using the varchar data type. The database contains a table named Orders.

Orders contains all of the purchase orders from the last 12 months. Purchase orders that are older than 12 months are stored in a table named OrdersOld.

The previous version of the ERP application relied on table-level security. Stored Procedures

The current version of the database contains stored procedures that change two tables. The following shows the relevant portions of the two stored procedures:

```
CREATE PROC Sales.Proc1
AS
BEGIN TRAN
UPDATE Sales.Table1 ...
UPDATE Sales.Table2 ...
COMMIT TRAN
GO

CREATE PROC Sales.Proc2
AS
BEGIN TRAN
UPDATE Sales.Table2 ...
UPDATE Sales.Table1 ...
COMMIT TRAN
GO
```

Customer Problems Installation Issues

The current version of the ERP application requires that several SQL Server logins be set up to function correctly. Most customers set up the ERP application in multiple locations and must create logins multiple times.

Index Fragmentation Issues

Customers discover that clustered indexes often are fragmented. To resolve this issue, the customers defragment the indexes more frequently. All of the tables affected by fragmentation have the following columns that are used as the clustered index key:

Column	Data type
id	uniquedentifier
lastModified	datetime
modifiedBy	Varchar(200)

Backup Issues

Customers who have large amounts of historical purchase order data report that backup time is unacceptable. Search Issues

Users report that when they search product names, the search results exclude product names that contain accents, unless the search string includes the accent. Missing Data Issues

Customers report that when they make a price change in the Products table, they cannot retrieve the price that the item was sold for in previous orders.

Query Performance Issues

Customers report that query performance degrades very quickly. Additionally, the customers report that users cannot run queries when SQL Server runs maintenance tasks. Import Issues

During the monthly import process, database administrators receive many supports call from users who report that they cannot access the supplier data. The database administrators want to reduce the amount of time required to import the data.

Design Requirements

File Storage Requirements

The ERP database stores scanned documents that are larger than 2 MB. These files must only be accessed through the ERP application. File access must have the best possible read and write performance.

Data Recovery Requirements

If the import process fails, the database must be returned to its prior state immediately. Security Requirements

You must provide users with the ability to execute functions within the ERP application, without having direct access to the underlying tables.

Concurrency Requirements

You must reduce the likelihood of deadlocks occurring when Sales.Prod and Sales.Proc2 execute. You need to recommend a solution that addresses the installation issues.

What should you include in the recommendation?

- A. Windows logins
- B. Server roles
- C. Contained users
- D. Database roles

**Answer: C**

**Explanation:**

- Scenario: Installation Issues The current version of the ERP application requires that several SQL Server

logins be set up to function correctly. Most customers set up the ERP application in multiple locations and must create logins multiple times.

- Creating contained users enables the user to connect directly to the contained database. This is a very significant feature in high availability and disaster recovery scenarios such as in an AlwaysOn solution. If the users are contained users, in case of failover, people would be able to connect to the secondary without creating logins on the instance hosting the secondary. This provides an immediate benefit.

**NEW QUESTION 192**

- (Exam Topic 2)

You administer a Microsoft SQL Server 2016 instance.

You need to stop a blocking process that has an SPID of 64 without stopping other processes. What should you do?

- A. Execute the following Transact-SQL statement: EXECUTE sp\_KillSPID 64
- B. Restart the SQL Server service.
- C. Execute the following Transact-SQL statement: KILL 64
- D. Execute the following Transact-SQL statement: ALTER SESSION KILL '64'

**Answer: C**

**Explanation:**

KILL can be used to terminate a normal connection, which internally terminates the transactions that are associated with the specified session ID.

References:

<http://msdn.microsoft.com/en-us/library/ms173730.aspx>

**NEW QUESTION 196**

- (Exam Topic 2)

You are planning to deploy a database to Windows Azure SQL Database.

You need to design a stored procedure to update rows. The stored procedure must meet the following requirements:

If more than one row is updated, an error must be raised to the application and the update must be discarded.

The stored procedure must be designed to maximize concurrency.

What should you include in the design? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.

Actions	Work Area
Raise an error in a catch block	
Commit the transaction in a finally block	
Read the @@ROWCOUNT system variable	
Perform the update in a try block	
Raise an error and roll back the transaction if the row count is less than 1	
Issue a SELECT statement to count the number of rows	
Set the isolation level to serializable	
Begin an explicit transaction	

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Note:

- Read Committed is SQL Server's default isolation level.
- @@ROWCOUNT returns the number of rows affected by the last statement.
- Using TRY...CATCH in a transaction

The following example shows how a TRY...CATCH block works inside a transaction. The statement inside the TRY block generates a constraint violation error.

```
- BEGIN TRANSACTION;
- BEGIN TRY
```

- Generate a constraint violation error.

```
DELETE FROM Production.Product
WHERE ProductID = 980;
END TRY
BEGIN CATCH
SELECT
ERROR_NUMBER() AS ErrorNumber
,ERROR_SEVERITY() AS ErrorSeverity
,ERROR_STATE() AS ErrorState
,ERROR_PROCEDURE() AS ErrorProcedure
,ERROR_LINE() AS ErrorLine
,ERROR_MESSAGE() AS ErrorMessage;
IF @@TRANCOUNT > 0
ROLLBACK TRANSACTION;
END CATCH;
IF @@TRANCOUNT > 0
COMMIT TRANSACTION;
GO
```

**NEW QUESTION 198**

- (Exam Topic 2)

Overview

You are a database administrator for a company named Litware, Inc.

Litware is a book publishing house. Litware has a main office and a branch office.

You are designing the database infrastructure to support a new web-based application that is being developed. The web application will be accessed at [www.litwareinc.com](http://www.litwareinc.com). Both internal employees and external partners will use the application.

You have an existing desktop application that uses a SQL Server 2008 database named App1\_DB. App1\_DB will remain in production.

Requirements Planned Changes

You plan to deploy a SQL Server 2014 instance that will contain two databases named Database1 and Database2.

All database files will be stored in a highly available SAN. Database1 will contain two tables named Orders and OrderDetails.

Database1 will also contain a stored procedure named usp\_UpdateOrderDetails.

The stored procedure is used to update order information. The stored procedure queries the Orders table twice each time the procedure executes.

The rows returned from the first query must be returned on the second query unchanged along with any rows added to the table between the two read operations.

Database1 will contain several queries that access data in the Database2 tables. Database2 will contain a table named Inventory.

Inventory will contain over 100 GB of data.

The Inventory table will have two indexes: a clustered index on the primary key and a nonclustered index. The column that is used as the primary key will use the identity property.

Database2 will contain a stored procedure named usp\_UpdateInventory. usp\_UpdateInventory will manipulate a table that contains a self-join that has an unlimited number of hierarchies. All data in Database2 is recreated each day and does not change until the next data creation process. Data from Database2 will be accessed periodically by an external application named Application1. The data from Database2 will be sent to a database named Appl\_Dbl as soon as changes occur to the data in Database2. Litware plans to use offsite storage for all SQL Server 2014 backups.

Business Requirements

You have the following requirements:

Costs for new licenses must be minimized.

Private information that is accessed by Application must be stored in a secure format.

Development effort must be minimized whenever possible.

The storage requirements for databases must be minimized.

System administrators must be able to run real-time reports on disk usage.

The databases must be available if the SQL Server service fails.

Database administrators must receive a detailed report that contains allocation errors and data corruption.

Application developers must be denied direct access to the database tables. Applications must be denied direct access to the tables.

You must encrypt the backup files to meet regulatory compliance requirements.

The encryption strategy must minimize changes to the databases and to the applications.

You need to recommend a feature to support your backup solution. What should you include in the recommendation?

- A. Transparent Data Encryption (TDE)
- B. Column-level encryption
- C. An NTFS file permission
- D. A Secure Sockets Layer (SSL)

**Answer:** A

**Explanation:**

- Scenario: You must encrypt the backup files to meet regulatory compliance requirements. The encryption strategy must minimize changes to the databases and to the applications.
  - Transparent data encryption (TDE) performs real-time I/O encryption and decryption of the data and log files. The encryption uses a database encryption key (DEK), which is stored in the database boot record for availability during recovery.
- Transparent Data Encryption (TDE)

**NEW QUESTION 202**

- (Exam Topic 2)

You have two SQL Server 2012 instances named SQLDev and SQLProd.

You plan to create a new database on SQLProd that will use SQL Server Authentication.

You need to ensure that when the new database is copied from SQLProd to SQLDev, users can connect to the database on SQLDev if they do not have a login on the SQLDev instance.

What should you use? More than one answer choice may achieve the goal. Select the BEST answer.

- A. SQL Server Integration Services (SSIS) scripts
- B. Extended Events
- C. Triggers
- D. SQL Server Analysis Services (SSAS) scripts
- E. Contained database

**Answer: E**

**Explanation:**

A fully contained database includes all the settings and metadata required to define the database and has no configuration dependencies on the instance of the SQL Server Database Engine where the database is installed.

**NEW QUESTION 204**

- (Exam Topic 2)

You administer a Microsoft SQL Server 2016 database named Contoso on a server named Server01.

You need to diagnose deadlocks that happen when executing a specific set of stored procedures by recording events and playing them back on a different test server.

What should you create?

- A. an Extended Event session
- B. a Policy
- C. a Database Audit Specification
- D. an Alert
- E. a Server Audit Specification
- F. a SQL Profiler Trace
- G. a Resource Pool

**Answer: F**

**Explanation:**

References:

<http://msdn.microsoft.com/en-us/library/ms188246.aspx>

**NEW QUESTION 209**

- (Exam Topic 2)

You need to recommend a backup process for an Online Transaction Processing (OLTP) database. The process must meet the following requirements:

Ensure that if a hardware failure occurs, you can bring the database online with a minimum amount of data loss.

Minimize the amount of administrative effort required to restore any lost data.

What should you include in the recommendation? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.

Options:

- Create a database snapshot
- Perform a differential backup of the database every night
- Ship the logs to a secondary server
- Perform a backup of the transaction log every hour
- Set the database to the simple recovery model
- Set the database to the full recovery model
- Perform a weekly full backup of the database

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Options:

- Create a database snapshot
- Perform a differential backup of the database every night
- Ship the logs to a secondary server
- Perform a backup of the transaction log every hour
- Set the database to the simple recovery model
- Set the database to the full recovery model
- Perform a weekly full backup of the database

Incorrect options (red dashed box):

- Set the database to the full recovery model
- Perform a weekly full backup of the database
- Perform a differential backup of the database every night
- Perform a backup of the transaction log every hour

NEW QUESTION 210

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